

Authentically leading groups: The mediating role of collective psychological capital and trust

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Summary

Although there have been recent theoretical advances in what is increasingly being recognized as authentic leadership, research testing possible mediating processes and the impact on group-level outcomes has not received attention. To help address this need, this study examined at the group level of analysis the role that collective psychological capital and trust may play in the relationship between authentic leadership and work groups' desired outcomes. Utilizing 146 intact groups from a large financial institution, the results indicated a significant relationship between both their collective psychological capital and trust with their group-level performance and citizenship behavior. These two variables were also found to mediate the relationship between authentic leadership and the desired group outcomes, even when controlling for transformational leadership. Implications for future research and practice conclude the paper. Copyright © 2009 John Wiley & Sons, Ltd.

Introduction

Authentic leadership has recently been comprehensively defined as “a pattern of leader behavior that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development” (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008, p. 94). Over the past several years, it has received growing attention in the leadership literature (Avolio, Gardner, Walumbwa, Luthans, & May, 2004; Gardner, Avolio, Luthans, May, & Walumbwa, 2005; Ilies, Morgeson, & Nahrgang, 2005; Luthans & Avolio, 2003). Although authentic leadership has had considerable intuitive (e.g., George, 2003) and theoretical support (e.g., Yammarino, Dionne, Schriesheim, & Dansereau, 2008), to date, little empirical research has been conducted in order to better understand the mechanisms by which authentic leaders exert their influence on effective behaviors. As Yammarino

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et al. (2008, p. 13) observes, “there is a need in AL (authentic leadership) to articulate theoretically and test empirically processes and process variables and measures.”

The major objective of this study was to extend authentic leadership research to the group level of analysis by investigating the mechanisms through which authentic leadership may be related to a group’s job performance and organizational citizenship behavior (OCB)—discretionary behaviors that are not required of any one individual in-role but are necessary to facilitate effective group functioning (Organ, Podsakoff, & MacKenzie, 2006). Specifically, we consider two constructs that have been proposed to tie authentic leadership to effective performance (Avolio et al., 2004; Gardner et al., 2005; Ilies et al., 2005): Group-level or collective psychological capital (see Luthans, Avolio, Avey, & Norman, 2007; Luthans, Youssef, & Avolio, 2007) and group-level trust (e.g., Dirks & Ferrin, 2001). The aim is to contribute to the understanding of underlying processes of authentic leadership which may affect desired group outcomes. Furthermore, by incorporating collective psychological capital (for the first time) and trust in the study framework, we respond to recent calls for integration of authentic leadership, psychological capital, and trust literatures (e.g., Gardner et al., 2005; Ilies et al., 2005). These calls have contended that psychological capital and trust are fundamental to linking authentic leader behavior to follower behaviors, yet to date empirical evidence does not exist.

Although the primary focus of our study is on authentic leadership, we include in our analyses transformational leadership as a control in order to further contribute to construct validation. Controlling for the effect of a well established leadership theory (e.g., transformational) helps to determine whether the specific authentic leadership construct contributes added value to leadership research and practice.

Theoretical Foundation

According to a social information processing perspective (SIP; Salancik & Pfeffer, 1978), one important source of information for effective group members’ behaviors come from the immediate work environment (including leadership). This information provides cues that group members use to construct and interpret events, and in turn guide their behavior. The key characteristics of authentic leaders are that they exhibit a pattern of openness and clarity in their behavior toward others by sharing the information needed to make decisions, accept others’ inputs, and provide constructive feedback to their followers (Avolio et al., 2004; Gardner et al., 2005). As a result, followers tend to be more efficacious, hopeful, optimistic, and resilient (i.e., have higher psychological capital, Luthans, Avolio, et al., 2007; Luthans, Youssef, et al., 2007), and are more trusting, consequently facilitating high levels of effective behaviors.

Such a perspective is further supported by social exchange theory (SET; Blau, 1964), which suggests that people define themselves in terms of *whom* they interact with and *how* they interact with them. Thus, drawing on SET and SIP, we contend that when individuals are in a “positive” social exchange relationship where leaders and followers openly share information and provide constructive feedback, followers often go beyond their formal duties to help others because of their sense of obligation and reciprocation. We next expand on these proposed theoretical linkages in more detail below.

Authentic leadership

Authentic leaders display four types of behaviors: Balanced processing, internalized moral perspective, relational transparency, and self-awareness (Walumbwa et al., 2008). Balanced processing refers to a

leader behavior that is less susceptible to denials, distortions, and exaggerations. Internalized moral perspective refers to leader behaviors that are guided by internal moral standards as opposed to those behaviors based on external pressure from peers and other organizational demands. Relational transparency refers to leader behaviors that are aimed at promoting trust through disclosures that include openly sharing information and expressions of the leader's true thoughts and feelings. Finally, self-awareness refers to the extent leaders appear to understand their strengths, motives, and weaknesses and how others view their leadership.

These behaviors have typically been studied as separate constructs. However, there is evidence to suggest that these four dimensions share some conceptual similarities, and that each component focuses on one aspect of authenticity (Kernis & Goldman, 2005). In support, Gardner et al. (2005) argued that all the four authentic leadership dimensions are self-regulatory processes that are governed in part through the leader's internal standards and personal evaluations of their behavior and thus share some commonality.

In addition to conceptual interaction, the same adjectives are commonly used in the leadership literature to describe the four dimensions. For example, adjectives such as honesty, integrity, fairness, strengths and weaknesses, sharing, true thoughts, openness, and truthfulness have often been used to describe these dimensions (see Gardner et al., 2005; Ilies et al., 2005; Kernis & Goldman, 2005; Luthans & Avolio, 2003). Beyond conceptual support, recent empirical research also suggests that these four individual constructs can be brought together to form a core common factor in explaining what comprises authentic leadership (e.g., Kernis & Goldman, 2005; Walumbwa et al., 2008). In the present study, we treat authentic leadership as a latent variable with its indicators represented by balanced processing, internalized moral perspective, relational transparency, and self-awareness.

Collective psychological capital

Luthans, Youssef, et al. (2007, p. 3) defined psychological capital as one's "positive psychological state of development that is characterized by (1) having confidence (self efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive expectation (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success." This definition is from an individual perspective. However, as Bandura (1997) transitioned personal efficacy to "collective efficacy" by noting in his definition the "group's shared belief in its conjoint capabilities" (p. 477) we would also define "collective psychological capital" as the "group's shared psychological state of development that is characterized by... (the four attributes indicated above for individual-level psychological capital)."

The theoretical foundation for collective psychological capital can be drawn from Bandura's (2006, 2008) recent work on an agentic perspective of human behavior and positive psychology (i.e., people are contributors or producers of their life circumstances, not just products of them). Accordingly, we propose that employees' psychological capital can be drawn upon for their motivation and, as indicated in the above definition, their proactive striving for success. Similar to Bandura's notion of collective efficacy, we would posit that collective psychological capital is "the product of the interactive and coordinative dynamics of its members; interactive dynamics create an emergent property that is more than the sum of the individual's attributes" (Bandura, 1997, pp. 477–478). Very relevant to the proposed theoretical relationships tested in this study, Bandura (1997) specifically notes that one of the most important factors that contributes to these interactive, synergistic effects of the group or collective is "how well it is led" (p. 478). In other words, the work group's collective psychological

capital is not only a product of interactive/coordinative dynamics and leadership but also a producer of desired behaviors and performance outcomes.

The four psychological resources (as opposed to trait-like, fixed personality dimensions) identified as making up collective psychological capital have been researched independently from each other. In particular, the four identified factors of psychological capital of efficacy, optimism, hope, and resilience each have considerable theory and research in positive psychology (e.g., see Snyder & Lopez, 2002). Stajkovic (2006) has also provided conceptual evidence linking these same four constructs. In his review, he concluded that there is evidence of points of overlap among them and “that the four constructs share a common confidence core that exists at a higher level of abstraction” (p. 1212).

More specifically, the four psychological capital resources have been determined to meet the inclusion criteria of theory, research and valid measurement, being state-like and open to development, and having performance impact. They have also been empirically demonstrated to form a higher-order, core construct referred to as psychological capital by Luthans, Avolio, et al. (2007). Consistent with the theoretical arguments first advanced by Luthans and colleagues (Luthans, 2002; Luthans, Avey, Avolio, Norman, & Combs, 2006; Luthans & Youssef, 2004; Luthans, Youssef, et al., 2007) and later by Stajkovic (2006), along with the growing empirical evidence (e.g., see Luthans, Avolio, et al., 2007; Luthans, Norman, Avolio, & Avey, 2008), in this study we treat the four dimensions as indicators of a higher order psychological capital factor.

This psychological capital is relevant to the present research because, unlike other recognized core constructs such as self-evaluation that is more “trait-like” (Judge & Bono, 2001), psychological capital has been empirically demonstrated to be “state-like” (Luthans, Avolio, et al., 2007) and open to development (Luthans, Avey, & Patera, 2008). In particular, Luthans, Avolio, et al. (2007) found that psychological capital empirically demonstrated its “state-like” nature from test–retest reliabilities of .52, which was substantially lower than recognized trait-like core self-evaluations (.87) and the Big 5 personality dimension of conscientiousness (.76), but yet higher than the recognized state of positive emotion (.46). In other words, along a continuum, state-like psychological capital is positioned between very transient states such as emotions or pleasures and “trait-like” core self-evaluations or personality dimensions, and then the end-point would be “hard-wired” traits such as intelligence or talents (e.g., see Luthans & Youssef, 2007, for detailed discussion of this state-trait continuum and the state-like nature of psychological capital). Moreover, Luthans, Avey, and Patera (2008) in a true experiment with a psychological capital training intervention found that psychological capital was developed in the randomly assigned experimental group and remained the same in the comparison group that received group dynamics (not psychological capital) training.

Previous conceptual work has emphasized the role of authentic leaders in creating such psychological capital in themselves and their followers (e.g., Avolio & Luthans, 2006; Luthans & Avolio, 2003). Despite these suggestions, to date “there has been no real attempt to fully integrate these related notions” of authentic leadership and psychological capital (Yammarino et al., 2008, p. 2). We do such integration in this study and at the group level of analysis.

Authentic leadership and collective psychological capital

There are a number of mechanisms that could affect the interactive effects of group members’ psychological capital and its four components (e.g., see Luthans, Avolio, et al., 2007). However, based on the discussion above concerning Bandura’s (2006, 2008) agentic perspective and the role that leadership may play in collective interactions, we propose that authentic leadership is related to (and may therefore impact) collective psychological capital. For example, authentic leaders could analyze all relevant information received from outside the group as well as from group members themselves and

then openly share that information with the whole group. Authentic leaders could also solicit views from individual group members and then utilize their ideas to strengthen the whole group (Gardner et al., 2005). Kirkman and Rosen (1999) argued that when leaders utilize members' ideas, members become more confident in their abilities. In other words, leaders sharing information provides group members with opportunities to develop collective intuition, expand their knowledge, learn from each other, and acquire new skills. This in turn raises group members' individual and in turn collective efficacy (Jones & George, 1998), a key component of collective psychological capital (Luthans, Youssef, et al., 2007). In addition to efficacy, each of the other psychological resource components of hope, optimism, and resilience that make up psychological capital may also contribute to the relationship between authentic leadership and collective psychological capital.

Hope refers to "a cognitive set that is based on a reciprocally derived sense of successful: (a) Agency (goal-directed determination) and (b) pathways (planning of ways to meet goals)" (Snyder et al., 1991, p. 570). Central to this definition of hope is the idea that there is a strategic planning process for goals (i.e., goal-directed nature of thinking), which is the basis for a problem-solving solution. Authentic leaders are depicted as having the ability to remain realistically hopeful (i.e., agentic thinking), even when they encounter extremely difficult situations, and they are also future-oriented in their pathways thinking and action (Luthans & Avolio, 2003). We propose that such leaders are more likely to stick closer to objective information in building group members' hope. Thus, over time, these authentic leaders are viewed as a more credible source of input and feedback to their group members when a significant challenge or problem arises. They also are likely to achieve this through their genuine character, their focus on employee involvement, strength development, and participation (Ilies et al., 2005). Thus, these authentic leadership characteristics and actions all seem fundamental to nurturing collective hope and in turn psychological capital.

Optimism refers to the mood or attitude associated with an interpretation about the social or material future—one which the evaluator regards as socially desirable (Tiger, 1979). Because optimism can be acquired through modeling (Peterson, 2000), one way authentic leaders can influence group members' optimism is by increasing their awareness and understanding about the importance of group goals and success. By doing so, authentic leaders model desired members' behavior. In this case, the desired behavior is one that exudes *realistic* optimism among group members. Authentic leaders are more likely to exhibit enhanced active and adaptive coping skills and are less likely to adopt avoidant coping styles when faced with challenges or setbacks (Luthans & Avolio, 2003). When leaders use active, adaptive, and positive approaches toward problem solving, they are more likely to motivate and challenge group members to do the same (Peterson, 2000), resulting in high levels of collective optimism and thus also enhanced collective psychological capital.

Finally, authentic leaders should be able to enhance followers' resiliency by moving positive goals to the forefront of their awareness (Masten & Reed, 2002). Such a genuine focus over time should build credit for leaders who are able to tap into their reserves of psychological resources (Masten & Reed, 2002) in order to sustain group members through periods of adversity and challenge. Such developmental strategies are likely to contribute to authentic leaders' ability to influence group members' resiliency and thus their collective psychological capital. Moreover, because of their heightened self-awareness, authentic leaders understand what they are capable of accomplishing (Gardner et al., 2005). They are more likely to be role models of resiliency for their group members. This perspective is supported by social learning theory (e.g., Bandura, 1977) which suggests that groups may emulate the values and behaviors of influential role models. Thus, on the basis of theory and prior research, we test the following hypothesis:

Hypothesis 1: Authentic leadership is positively related to collective psychological capital.

Authentic leadership and group trust

Conceptually, it has been proposed that leader behaviors that encourage group members' involvement and participation in the decision making process and promote sharing of information are also likely to enhance group members' trust (Dirks & Ferrin, 2001). In particular, highly authentic leaders value realistic and truthful relationships with followers (Gardner et al., 2005; Ilies et al., 2005). They solicit views about important work-related matters and openly share information fairly and transparently. Empirically it has been found that the leader's level of transparency and psychological capital affects the followers' perceived trust in the leader (Norman, Avolio, & Luthans, in press). Authentic leaders also act in accordance with fundamental and deeply rooted values and beliefs, rather than responding to external pressures or narrow and transitory interests (Gardner et al., 2005).

When leaders interact with members with openness and truthfulness, this should promote unconditional trust from members (Ilies et al., 2005). Moreover, by setting a personal high moral standard with integrity and involving members in the decision making process, authentic leaders should be able to build a deep sense of trust in group members. This trust sustains a more transparent process of dealing with difficult problems in part because of the shared values. Prior research suggests that when followers identify with their immediate supervisors' values, they become more trusting to the leader (Podsakoff, MacKenzie, Moorman, & Fetter, 1990).

Similarly, the higher levels of transparency and disclosures that characterize authentic leaders should also promote the development of value-congruence between the leader and group members. Having such similar values between the leader and group members encourages mutual attraction (Byrne, 1971). This attraction often evolves into psychological trust because people seek to link their self-concepts to entities they find attractive. Mayer, Davis, and Schoorman (1995) suggested that when followers trust their leaders to have requisite ability, benevolence, and integrity, they will be more comfortable engaging in more trusting relationships, including sharing sensitive information. Thus, when group members are willing to share information, which is central to authentic leadership (Gardner et al., 2005), we suggest that group trust is likely to be enhanced because of the shared values and repeated behavioral interactions (Ilies et al., 2005). Thus, we test the following hypothesis:

Hypothesis 2: Authentic leadership is positively related to group trust.

Collective psychological capital, group citizenship behavior and group performance

There is growing empirical research evidence linking psychological capital to several desired outcomes (Luthans, Avolio, et al., 2007; Luthans, Norman, et al., 2008). However, to date, the research examining these relationships has been focused at the individual-level of analysis. The only exception was a recent study utilizing student groups which found collective optimism was an important predictor of group cohesion, cooperation, coordination, conflict, and satisfaction when groups were newly formed (e.g., West, Patera, & Carsten, 2009). However, not only did this study depend on student groups, but it was also limited to collective efficacy, optimism, and resiliency and treated these three factors as separate entities, not as a higher-order representation of psychological capital. Thus, the present study is the first to test overall psychological capital at the real (intact) work group level of analysis.

Again, taking an agentic perspective (Bandura, 2006, 2008), there may be multiple ways in which collective psychological capital produces outcomes such as group citizenship behavior and group performance (Luthans, Youssef, et al., 2007; Stajkovic, 2006). For example, Bandura (1997) has

indicated that collective efficacy beliefs play an important role in group motivation because members have to rely, at least to some extent, on others to accomplish their tasks. When faced with obstacles, groups with higher levels of collective efficacy are more likely to persist in trying to solve such problems (Bandura, 1997). This development of shared mental persistence and commitment to goals, in turn, enhances the performance competencies of the group as a whole as well as group prosocial, helping (i.e., citizenship) behavior. Some researchers have also argued that efficacious groups are more likely to be confident about their tasks, engage in their work to its completion, and set out on a path they believe will lead to effective performance (West et al., 2009). These propositions have been supported by several empirical and meta-analytic studies that report positive relationships between collective efficacy and performance (e.g., Gully, Incalcaterra, Joshi, & Beaubien, 2002; Sparrowe, Soetjijto, & Kraimer, 2006).

Besides the positive impact of collective efficacy, optimistic groups are also likely to exhibit more active and adaptive coping skills and are less likely to adopt avoidant coping styles when faced with problems (Brissette, Scheier, & Carver, 2002). This is because optimism involves cognitive, emotional, and motivational components, which we suggest would likely help group members to be more persistent and successful (Peterson, 2000). Research has indicated that optimists build stronger relationships with others, at least partially because of their belief that others provide them with needed support (Srivastava, McGonigal, Richards, Butler, & Gross, 2006). Optimism has also been found to be related to performance among insurance sales agents (Seligman, 1998) and those undergoing significant change and cultural transformation in China (Luthans, Avey, Clapp-Smith, et al., 2008; Luthans, Avolio, Walumbwa, & Li, 2005).

Hope not only involves the pathways that include identifying goals and sub-goals but also involves alternative ways to reach those goals (Snyder et al., 1991). Groups high in hope would most likely utilize contingency planning when they face challenges and obstacles to achieving goals or sub-goals and proactively identify multiple pathways to attain the targeted goal (Snyder, 1994). Such groups will have not only the *will* to succeed (i.e., the ability and motivation to identify and clarify), but also proactively identify and pursue the *way* to success (Snyder, 1994), thus enhancing group citizenship behavior and performance.

Finally, given their ability to adapt to adverse events and evidence that has shown a positive relationship between resilience and life satisfaction (Seligman, 2002), resilient groups should be more open to adapting and bouncing back from adverse situations or challenges to enhance their performance. Groups demonstrating resilience should also be more willing to help other members so that they can maintain their positivity, continue to perform well, and pursue roles or aspects of their work that are more satisfying to them (Maddi, 1987). Taken together, we expect the higher-order psychological capital factor at the group level to be instrumental in promoting both group citizenship behavior and performance. We test the following hypothesis:

Hypothesis 3: Collective psychological capital is positively related to (a) group citizenship behavior and (b) group performance.

Relationship between group trust and group citizenship behavior and performance

Trust has been widely recognized as being critical to effective group processes and group behaviors (Dirks, 1999; Dirks & Ferrin, 2001, 2002; Kirkman, Rosen, Tesluk, Gibson, & McPherson, 2002). Although the group engagement model (Tyler & Blader, 2000) suggests that leadership plays a central role in facilitating citizenship behaviors, the model also suggests that discretionary behaviors such as

helping behaviors are best understood as a form of reciprocity for valued resources. One such valued resource is trust, which is considered as a key antecedent to members' standing and perceptions of respect in a group (Sparrowe et al., 2006). Thus, it seems quite likely that authentic leaders will promote group citizenship behavior at least in part by building trusting relationships among group members. Organ et al. (2006, p. 93) alluded to this when they noted that "it is unclear whether the effects of leadership behavior on OCB are direct or indirect."

Theory and research is clearer in supporting the notion that group trust may contribute to desired group outcomes such as citizenship behaviors and job performance. Meta-analysis also found that trust in leadership was associated with a variety of important organizational outcomes, including OCB (Dirks & Ferrin, 2002). Groups that have more trusting relationships should also be willing to work hard to maintain both their relative standing and group identity, as well as improve their performance, even in the face of challenges and diversity (Dirks & Ferrin, 2001, 2002). Jones and George (1998) argued that trust is likely to influence group performance because trust enhances free exchange of knowledge and information sharing, which is likely to help group members to accomplish ongoing tasks. Research also suggests that the repeated interactions that members receive as a result of trusting relationships is likely to facilitate learning more about other members' areas of expertise (Lewis, 1999), which in turn seems likely to enhance group performance. Further supporting the notion that group trust may contribute to group performance, Dirks (1999) found a significant relationship between trust and group work performance. In keeping with this literature, we expect group trust to relate to group citizenship behavior and performance and test the following:

Hypothesis 4: Group trust is positively related to (a) group citizenship behavior and (b) group performance.

Authentic leadership, group citizenship behavior, and performance

So far we have hypothesized that authentic leadership is positively related to both collective psychological capital and group trust, which in turn, are both positively related to group citizenship behaviors and performance. Thus, Hypotheses 1–4 assume that authentic leadership has an indirect effect on both group citizenship behavior and performance through collective psychological capital and group trust. Below, we provide theory-driven rationale for these expected relationships in deriving the final study hypothesis.

Authentic leadership and group citizenship behavior

According to the group engagement model (e.g., Tyler & Blader, 2000), leaders play a central role in facilitating team helping behavior because of their unique position as dispensers of rewards related to OCBs (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). We suggest that when authentic leaders demonstrate their openness in terms of information sharing, are transparent, and accept other members' views (Avolio et al., 2004; Gardner et al., 2005; Luthans & Avolio, 2003), this should create a positive environment where group members understand the importance of helping others for the benefit of attaining group goals (Tyler & Blader, 2000). Moreover, Isenberg (1988) argued that when group members share information, they are able to understand even small cues and fill in the blanks. There also is beginning empirical support for a positive relationship between leadership and group-level citizenship behaviors (e.g., Sparrowe et al., 2006), and in particular, between authentic leadership and citizenship behaviors at the individual-level of analysis (e.g., Walumbwa, Wang, Wang, Schaubroeck,

& Avolio, in press). Thus, based on both theory and prior research, we expect a positive relationship between authentic leadership and group citizenship behaviors.

Authentic leadership and group performance

Authentic leaders would seem to have an especially positive influence on group performance because they provide support for members' self-determination (Ilies et al., 2005), which also has been linked to performance (Deci & Ryan, 2000). As already mentioned, such leaders do not try to coerce members, but rather use their values, beliefs, and behaviors to model the development of others to make the best choices (Luthans & Avolio, 2003). In addition, by authentic leaders promoting transparency and balanced processing of information among team members, we expect more rapid and accurate transfer of information among group members. This should result in trusting relationships which should facilitate more effective group performance. Research has indicated that when group members have access to information, they are more likely to utilize cognitive resources available within a team and attend to their tasks without interruptions (Argote, 1999). This should result in team effectiveness. Thus, we hypothesize the following:

Hypothesis 5: Collective psychological capital and group trust mediate the relationship between authentic leadership and group outcomes of citizenship behavior and performance.

Methods

Sample and procedures

The sample consisted of 146 intact (existing) work groups (526 employees and their immediate supervisors) of a large bank located in the Southwest United States. As a result of widespread and difficult economic conditions in recent times, managers and supervisors in banking institutions are being severely challenged. They are expected not only to demonstrate high ethical and moral standards but also to develop positive and trusting relationships with group members. Bank leaders at the operational levels are expected to enhance their shared psychological states in order to make an important contribution to the work context and their group's desired behaviors and performance outcomes. In other words, especially at this time of a turbulent economic environment, the use of a banking sample to study the impact of authentic leadership on group-level outcomes, and more importantly, the process by which this effect is realized, seems very relevant. Data for this study was collected in the spring of 2008 when the U.S. banking industry was feeling the pressures of troubled economic times that a bit later erupted in the national spotlight.

The average age of the participants was about 31 years ($SD = 13.49$) and 61 per cent were female; 38 per cent white, 33 per cent Hispanic, and 29 per cent other. Over 98 per cent of employees had at least a high school education or higher and they had been with the bank on average for a year or longer. Respondents performed administrative/professional and clerical duties (e.g., tellers, loans, retail banking, customer service, etc.). The average age of the supervisors was 32 years; 55 per cent were female; and 48 per cent were white, 27 per cent Hispanic, and 25 per cent other.

To gather data for the study, an e-mail was first sent to all bank employees through the HR department asking them to participate in a research study on leadership and motivation conducted by the university. The first part of the confidential survey on their leader's style and demographics was collected at Time 1 and their levels of psychological capital and trust about 3 weeks later at Time 2.

This time separation was done to help minimize common source bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Time 1

Employees received a survey packet containing a cover letter from the researchers and endorsed by the bank senior management requesting their participation. The cover letter explained the purpose of the study, provided assurances of confidentiality, informed participants that only aggregated data would be reported to the organization, indicated they would be receiving another short survey in approximately 3 weeks, and stressed the importance of responding to both surveys. To ensure further confidentiality, we set up a central secure collection box for survey drop-off in each facility, and we also provided the respondents with the option of mailing the surveys directly to the university researchers using a prepaid return envelope. Participants were given a week to complete the survey distributed on-site.

In the first data collection, participants were asked to rate their leader's style (authentic and transformational) and provide demographic information including age, sex, and tenure. Participants were also asked to identify their work units and to provide their names so that we could match data at Time 2. All employees at each work unit represented an intact work group because this is how the overall bank culture treated them. These groups operated day-to-day according to the generally accepted criteria of what constitutes an intact group in the group dynamics literature (i.e., collective work projects, mutual accountability, a specific purpose and shared goals, and real work, see Katzenback & Smith, 1993). A total of 824 surveys were distributed in Time 1 and 598 completed surveys were returned (a response rate of 73 per cent).

Time 2

Approximately 3 weeks later, participants who completed the Time 1 surveys were given a second survey that assessed collective psychological capital and group trust. A total of 526 out of 598 (88 per cent, representing 3–7 from each group) completed surveys were returned at Time 2. Thus, a total of 526 employees had completed data on all the variables at Time 1 and 2, and they represented 146 intact groups. We compared data for those who returned surveys at Time 1 and those who did not respond at Time 2. No significant differences between these respondents in terms of age, gender, and tenure were detected.

Leader data collection

After all data were collected from participants, the immediate supervisors ($N = 146$) of each group were then asked to rate their respective groups in terms of citizenship behavior and performance. All the leaders that were identified completed their ratings (100 per cent response rate). The leaders were also assured of the confidentiality of their ratings.

Measures

Authentic leadership

This study used the recently developed and validated Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008).¹ Walumbwa et al. (2008) provided initial research evidence of both convergent and discriminant validity with respect to closely related transformational and ethical leadership. This research also found that the core factor of authentic leadership was a significant

¹The Authentic Leadership Questionnaire (ALQ) is copyright 2007 by Bruce Avolio, William Gardner, and Fred Walumbwa. The instrument is available for research purposes at <http://www.mindgarden.com/products/alq.htm>

positive predictor of self-reported OCB, and supervisor-rated job performance controlling for organization climate.

In this study, participants rated the authentic characteristics of their supervisors ($\alpha = .83$). The response anchors ranged from 1 (not at all) to 5 (frequently, if not always). Sample items include: The supervisor "... listens carefully to different points of view before coming to conclusions" (balanced processing); "... makes difficult decisions based on high standards of ethical conduct" (internalized moral perspective); "... seeks feedback to improve interactions with others" (awareness); and "... encourages everyone to speak their mind" (transparency).

Collective psychological capital

We assessed collective psychological capital ($\alpha = .79$) using eight items from a recently validated Psychological Capital Questionnaire (PCQ; Luthans, Avolio, et al., 2007).² Each of the four resource components of psychological capital were represented by two items from the PCQ that were originally adapted from published *hope* (Snyder, Sympson, Ybasco, Borders, Babyak, & Higgins, 1996), *resilience* (Wagnild & Young, 1993), *optimism* (Scheier & Carver, 1985), and *efficacy* (Parker, 1998) scales. The research team assessed and unanimously agreed on the eight items as meeting the criterion of relevancy for collective psychological capital and used Chan's (1998) referent shift model to edit the items for group level of analysis. Sample items include: Members of this group "... confidently contribute to discussions about the group's strategy" (efficacy); "... think of many ways to reach work goals" (hope); "... are optimistic about what will happen to them in the future as it pertains to work" (optimism); and "... usually take stressful things at work in stride" (resilience). Group members rated their own psychological capital with a response format ranging from 1 (strongly disagree) to 5 (strongly agree).

Group trust

We measured group trust ($\alpha = .75$) with a 3-item instrument used by Campion, Medsker, and Higgs (1993). The items which were anchored on a scale of 1 (not at all) to 5 (very much) asked participants to respond on the extent to which they trusted their group members, once again using Chan's (1998) referent shift model to edit the items for group level of analysis. The three items are, "How much do members of your group trust each other?"; "how comfortable do members of your group feel delegating to other group members?"; and "are your group members truthful and honest?"

Group citizenship behavior

To measure citizenship behavior ($\alpha = .85$), we used the 8-item scale developed by Lee and Allen (2002) directed at the group. However, we used the term "group" rather than organization to reflect more of the group focus of this study. Sample items include: Members of this group "... offer ideas to improve the functioning of the group" and "... take action to protect the group from potential problems." Each supervisor provided a rating of his or her group on a 5-point response scale (1 = strongly disagree to 5 = strongly agree).

Group performance

We used a 12-item modified performance measure ($\alpha = .88$), including group direction, initiative, and innovation used by Bono and Judge (2003). Each leader provided a rating of his or her departmental group on a 5-point response scale (1 = needs improvement to 5 = excellent). Sample items include:

²The Psychological Capital Questionnaire (PCQ) is copyright 2007 by Fred Luthans, Bruce Avolio, and James Avey. The instrument is available for research purposes at <http://mindgarden.com/products/psycap.htm>

This group "... redesigns job tasks for greater effectiveness and efficiency" (direction), "... takes initiative and do whatever is necessary" (initiative), and "... comes up with new ideas" (innovation).

Control variable

We measured transformational leadership ($\alpha = .92$) using 20 items from the Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio, 2004).³ A sample item includes: "The supervisor emphasizes the importance of having a collective sense of mission."

Results

Measurement and validity issues

We conducted several analyses to examine the measurement properties of authentic leadership and psychological capital since they are relatively new constructs. First, to verify that authentic leadership was distinct from transformational leadership and psychological capital from trust, we conducted a confirmatory factor analysis on authentic leadership and transformational leadership (and psychological capital and trust) instruments, with each item allowed to only load on its appropriate factor. These analyses were conducted at the group level of analysis using items as indicators.

The results indicated that the two factor models fit the data well (authentic and transformational leadership: $\chi^2 = 1211.57$, $df = 576$, $p < .01$, CFI = .97, RMSEA = .04; psychological capital and trust: $\chi^2 = 77.04$, $df = 37$, $p < .01$, CFI = .97, RMSEA = .05), with the standardized factor loadings ranging from .73 to .96. By comparison, we also fitted a model with both authentic leadership and transformational leadership (and psychological capital and trust) items loading together on one single factor. The results revealed that the one factor models provided much poorer fit to the data (authentic and transformational leadership combined: $\chi^2 = 1304.31$, $df = 577$, $p < .01$, CFI = .92, RMSEA = .09; psychological capital and trust combined: $\chi^2 = 156.53$, $df = 38$, $p < .01$, CFI = .89, RMSEA = .10), and both the χ^2 -difference were significant at the .01 level (a detailed result of these analyses can be provided by the first author on request). These results provided evidence that authentic leadership was distinct from transformational leadership and psychological capital was also distinct from trust.

Aggregating issues

To assess the appropriateness of aggregating individual scores of authentic and transformational leadership, psychological capital and trust to the group level, we examined both between-group differences and within-group agreement. To do this, we used two intraclass correlations (ICCs) for assessing agreement among group members. The ICC1 indicates the level of agreement among ratings from members of the same group. ICC2, on the other hand, suggests whether groups can be differentiated on the variables under investigation. For authentic leadership, the ICC1 and ICC2 were .24 and .87, respectively. For psychological capital, the ICC1 and ICC2 were .14 and .72, respectively. For trust, the ICC1 and ICC2 were .19 and .80, respectively. For transformational leadership, the ICC1 and ICC2 were .28 and .81, respectively. The *F*-value for ANOVA tests was all significant ($p < .01$).

³The Multifactor Leadership Questionnaire, Form 5X is copyrighted in 1995 by Bernard Bass and Bruce Avolio.

In addition, we calculated r_{wg} (James, Demaree, & Wolf, 1984). The r_{wg} average value was .90 for authentic leadership ranging from .71 to .97; .73 for psychological capital ranging from .60 to .81; .83 for trust ranging from .63 to .94; and .85 for transformational leadership ranging from .75 to .95, all meeting the recommended value of .70 or above cutoff (James, 1988). These results indicate that it was appropriate to analyze our data at the group level.

Hypothesis tests

Descriptive statistics for all study variables are shown in Table 1. Because we collected data from a number of bank branches, we examined whether there were significant differences between the branches in terms of the variables studied using ANOVA tests and found no significant differences. Based on these results, we concluded that the effects observed in the present study are attributable to perceptions of employees and not necessarily due to followers' demographics or the nature of the bank branches (i.e., context).

In testing our hypotheses, we relied on the most recent work by Kenny, Kashy, and Bolger (1998). According to this work, establishing the role of any mediator (taking group trust as an example) in the authentic leadership—group performance relationship involves meeting four conditions: (1) Authentic leadership is related to group trust, (2) trust is related to performance, (3) authentic leadership is related to performance, and (4) the strength of the relationship between authentic leadership and performance is reduced when trust is added to the model as a mediator. However, it should be noted that the third requirement does not have to be met, especially if the relationship between the independent and dependent variable is distal (see Kenny et al., 1998, p. 260). Thus, a core evidence of a variable M as a mediator of the $X \rightarrow Y$ relationship is that both the $X \rightarrow M$ effect and $M \rightarrow Y$ effect are significant simultaneously.

We utilized the structural equation modeling (SEM) approach to test the hypotheses and verify the indirect effect of authentic leadership on group citizenship behavior and performance. We used SEM because it provides the best balance of Type I error rates and statistical power (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002), especially when testing complete mediation. Total, direct, and indirect effects of authentic leadership are shown in Table 2.

Hypotheses 1–2: Effect of authentic leadership on collective psychological capital and group trust

We controlled for transformational leadership in all our hypotheses testing. This control variable was significant in all of the models. Hypotheses 1 and 2 predicted that authentic leadership is positively

Table 1. Descriptive statistics and correlations

Variables	Mean	SD	1	2	3	4	5	6
1. Authentic leadership	3.01	.73	(.83)					
2. Transformational leadership	3.35	.64	.49**	(.85)				
3. Group trust	3.14	.88	.22**	.34**	(.75)			
4. Collective psychological capital	3.17	.68	.31**	.39**	.14*	(.79)		
5. Group citizenship behavior	3.25	.59	.27**	.32**	.25**	.42**	(.85)	
6. Group job performance	3.44	.72	.35**	.24**	.46**	.39**	.51**	(.88)

Note: The correlations and internal reliabilities (Cronbach's α s) are based on $N = 146$ groups. Scale reliabilities appear on the diagonal in parentheses.

* $p < .05$ (two-tailed test); ** $p < .01$ (two-tailed test).

Table 2. Direct, indirect, and total effects of authentic leadership

Variables	Effect		
	Total	Direct	Indirect
Authentic leadership effects			
Group trust	.27**	.27**	—
Collective psychological capital	.37**	.37**	—
Group citizenship behavior	.37**	—	.24**
Group performance	.44**	—	.29**

Note: Dashes indicate data are not applicable.
 ** $p < .01$ (two-tailed tests).

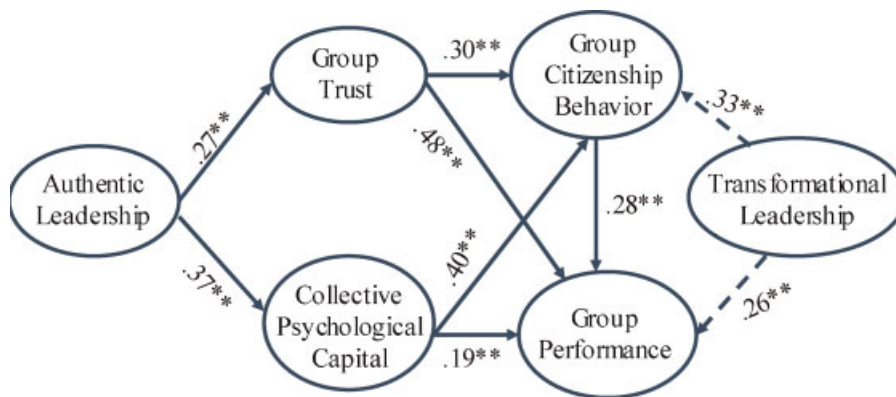


Figure 1. Structural equation modeling results

related to group members’ psychological capital and trust, respectively. Before estimating our structural model, we first examined a measurement model at the group level to assess the relationships between latent variables and the manifest variables that served as their indicators. To maintain favorable indicator-to-sample-size ratio, we used parcels. We randomly created three parcels of items for performance and two parcels of items for the trust and citizenship behavior. We treated the four dimensions of authentic leadership as described by Walumbwa et al. (2008) and the four components of psychological capital as identified by Luthans, Avolio, et al. (2007) as their indicators. This measurement model demonstrated a good fit to the data ($\chi^2 = 295.46$, $df = 128$, $p < .01$, CFI = .97; RMSEA = .05). Figure 1 presents the standardized path coefficients ($\chi^2 = 302.38$, $df = 141$, $p < .01$; CFI = .97; RMSEA = .05). Results indicate significant positive links from authentic leadership to collective psychological capital ($\beta = .37$, $p < .01$) and group trust ($\beta = .27$, $p < .01$). Thus, Hypotheses 1 and 2 are supported.

Hypotheses 3–4: Effect of collective psychological capital and group trust

Hypothesis 3 predicted that collective psychological capital would be positively related to both citizenship behavior (OCB) and performance. Hypothesis 4 predicted that group trust would be positively related to both OCB and performance. As shown in Figure 1, collective psychological capital is significantly related to both OCB ($\beta = .40$, $p < .01$) and performance ($\beta = .19$, $p < .01$). Similarly, results shown in Figure 1 indicate that group trust is significantly related to both OCB ($\beta = .30$, $p < .01$) and performance ($\beta = .48$, $p < .01$). Thus, Hypotheses 3 and 4 are supported.

Hypothesis 5: Collective psychological capital and group trust as mediators

Hypothesis 5 predicted that the effect of authentic leadership on group OCB and performance would be mediated by collective psychological capital and group trust. Following the SEM approach, we tested a model linking authentic leadership to the mediators and the mediators to group OCB and performance. We compared the fit of our hypothesized model shown in Figure 1 (complete mediation) against three alternate partially mediated nested models. In the first alternative model, we added a direct path from authentic leadership to group citizenship behavior. The fit of this model was almost identical to that of Figure 1 ($\chi^2 = 299.87$, $df = 140$, $p < .01$; $CFI = .97$; $RMSEA = .05$), with the difference in fit nonsignificant ($\Delta\chi^2[1] = 2.51$, n.s.). The second alternative model added a direct path from authentic leadership to group performance. The fit of this alternative model was also identical to that of Figure 1 ($\chi^2 = 298.61$, $df = 140$, $p < .01$; $CFI = .97$; $RMSEA = .05$), with the difference in fit nonsignificant ($\Delta\chi^2[1] = 3.77$, n.s.). Finally, the third alternative model added two direct paths from authentic leadership to group citizenship behavior and performance. The fit of this alternative model was identical to that of Figure 1 ($\chi^2 = 296.78$, $df = 139$, $p < .01$; $CFI = .97$; $RMSEA = .05$), with the difference in fit nonsignificant ($\Delta\chi^2[2] = 5.60$, n.s.). Figure 1 therefore displays a more parsimonious model that achieves the same fit model. Hypothesis 5 was therefore supported—the effect of authentic leadership on group OCB and performance was mediated by collective psychological capital and group trust.

Discussion

Although recent work has stressed the importance of leadership in follower motivation, the leadership literature, in general, has paid relatively limited attention to the underlying psychological mechanisms through which leaders motivate followers to achieve desired outcomes (Kark & Van Dijk, 2007). This is even more the case at the group level of analysis. Indeed, as observed in the introductory comments and specific to authentic leadership, although a number of theorists have suggested that authentic leaders may produce important desired outcomes at the group level (e.g., Avolio & Walumbwa, 2006; Gardner et al., 2005), the processes underlying this approach have not yet been tested (Yammarino et al., 2008). In this study, we analyzed a theory-driven model of the effect of authentic leadership on desired group outcomes that is mediated by the group members' collective psychological capital and trust.

Overall, this study found that both group-level psychological capital and trust were not only related to a work group's citizenship behavior and performance but also mediated the relationship between authentic leadership and these two desired group outcomes. These findings provide empirical support for integrating authentic leadership with group-level psychological capital, trust, and desired outcomes (citizenship behavior and performance). In other words, this study suggests that authentic leadership may enhance group members' psychological capital and trust levels, which in turn affect their citizenship behaviors and performance.

Noteworthy is that results from this study extend research on authentic leadership by specifically providing evidence at the group level. The implication is that authentic leadership is related to cognitions and behaviors not only at the individual level but also at the group level. Thus, the results of this study suggest a broader potential impact on followers and highlight the potential value of authentic leadership in organizations.

Finally, this study contributes to the better understanding of the underlying mechanisms of authentic leadership. In particular, this study extends recently emerging research findings by demonstrating the

generalizability of the positive impact of both authentic leadership and psychological capital on desired outcomes at the heretofore untested group level of analysis.

Practical implications

There are several practical implications from this study's findings. For example, to enhance group members' psychological capital and trust, the results suggest that an effective leader needs to concentrate on authentic-related dimensions such as sharing information, involving group members in the decision-making processes, and in general be ethical, open, and truthful in their dealings with group members. Although such advice has been given through the years, this study contributes to an evidence-based management (EBM) approach (see Rousseau, 2006). In other words, those drawing from EBM would follow the guideline of exhibiting authentic leadership in facilitating and enhancing trusting relationships and psychological capital in their groups, and this in turn should increase the probability of obtaining desirable citizenship behaviors and improved performance.

Finally, the study findings indicate the potential of developing group psychological capital and trust. Specifically, the study findings suggest that leaders exhibiting authentic characteristics and behaviors may be instrumental in developing trusting relationships and psychological capital in groups. Thus, training programs aimed at enhancing psychological capital (e.g., see Luthans et al., 2006; Luthans, Avey, & Patera, 2008 for specific guidelines and results of developing psychological capital) may be even further advanced by incorporating authentic leadership behaviors. Practically, the leadership behaviors can be operationalized in training programs through the use of role plays and simulations that involve ambiguous situations. Role models may be shadowed and may also serve as mentors to develop future leaders in organizations. Our findings also suggest that leadership training programs that are focused on successfully leading groups may benefit from incorporating dimensions that enhance psychological capital and trust that may in turn lead to improved group citizenship behaviors and performance.

Limitations and future research

Before concluding, the study limitations and needed future research should be noted. Methodologically, several steps were taken to address the potential limitation of common method bias. First, we tested our model using confirmatory factor analysis, which allowed us to reduce measurement error by having multiple indicators per latent variable and testing alternative models. Second, each wave of data collection was separated in time and our model was tested with responses from two different research participants—group members and their immediate supervisors, allowing us to reduce common-method bias (Podsakoff et al., 2003). Finally, we also addressed the potential limitation of common source bias by averaging individual ratings to the group level of analysis. Bono and Judge (2003) have argued that a benefit to this approach is that individual differences in follower reactions or biases in reporting are treated as error. Specific to authentic leadership, aggregating individual scores to the group level also help alleviate potential concerns that authentic leadership may be a subordinate-specific (or relationship-specific) perception similar to the concept of leader-member exchange (LMX). Nonetheless, future research should strive to measure leadership variables and mediators (e.g., psychological capital and trust) from different sources to rule out potential common-method bias.

Even though the potential limitations were addressed methodologically, there are still unanswered questions that need to be addressed in future research. First, although we assessed important group

outcomes, we encourage future research to expand the nomological network of authentic leadership by including antecedents and additional mediators. For example, on the antecedent side it would be interesting to examine the relative influences of personality traits (e.g., conscientiousness, agreeableness, neuroticism, or locus of control), which may prove useful in explaining the emergence of authentic leadership. On the mediator side, constructs such as group cohesion or goal orientation may provide richer theoretical understanding of authentic leadership. On the outcome side, outcome variables such as group engagement, well being, and withdrawal behaviors may also provide greater insights. We should also note that the measure of psychological capital included eight items with only two items for each component which is less than the traditional three items or more per subscale that are recommended to help facilitate reliability. Future research should also strive to compare multiple measures of psychological capital to determine appropriate psychometric validity. Further theory development may also be gained by analyzing psychological capital as an antecedent to authentic leadership (e.g., see Luthans and Avolio, 2003) rather than just an outcome or a mediator.

Future research may also investigate how some other leadership theories might be connected to authentic leadership. For example, is relational transparency connected to leadership behaviors such as consideration? Can initiating structure affect perceptions of leader authenticity? Answers to these questions may enhance our understanding of the complex relationships between authentic leadership and desired outcomes and further demonstrate that authentic leadership is a distinct leadership construct.

Future research also needs to explore boundary conditions for authentic leadership that are beneficial to group effectiveness (e.g., justice climate, psychological safety, and various individual and organizational cultural dimensions and across borders). Finally, although our findings are encouraging, they are based on a single large U.S. bank. Thus, it is important to extend the generalizability of our findings to other kinds of different organizational contexts, such as teams in health care organizations and academic institutions, where issues of balanced processing, ethics, honesty, self-awareness, trust, and transparency ethics are also likely to be important drivers of performance. However, it should be noted that Walumbwa et al. (2008) examined the construct across samples in China, Kenya, and the United States and found support for the hypothesized relationships.

In conclusion, this study provides evidence that not only does authentic leadership have a relationship with group level psychological capital and trust, but through these positive constructs, it is also related to desired group-level outcomes of citizenship behavior and performance. Our study is one of very few studies that consider authentic leadership effects at the group level. The strong support for the hypotheses tested suggests that authentic leadership may matter in work groups in terms of members' cognitions, behaviors, and performance. Further, the unique role of authentic leadership is evident over the well known and researched transformational leadership. We hope the supportive results reported in this study will stimulate additional research in these important areas of authentic leadership, psychological capital, and trust to help meet the unprecedented challenges facing organizations now and in the future.

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