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Journal of Leadership & Organizational Studies 2011 18: 438 originally published online 30 November 2010

DOI: 10.1177/1548051810382013

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Journal of Leadership & Organizational Studies
18(4) 438–448
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DOI: 10.1177/1548051810382013
<http://jlos.sagepub.com>


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Abstract

This article contributes to the theoretical understanding of the relationship between authentic leadership and follower psychological capital. Structural equation models using a representative national sample of working adults revealed a positive relationship between authentic leadership and followers' psychological capital, partially mediated by positive work climate, and a significant moderating effect from gender. Findings support previous predictions about the effects of authentic leadership and begin to reveal the mechanisms by which authentic leaders affect followers. Moreover, they underscore the need to consider the influence of follower characteristics in understanding leadership outcomes. Implications and directions for future research are discussed.

Keywords

authentic leadership, psychological capital, gender, followership, positive work climate

There is a widespread perception of a profound crisis in modern leadership. For instance, more than 7 in 10 Americans agree or strongly agree that there is a leadership crisis in the United States (Rosenthal, Pittinsky, Purvin, & Montoya, 2007), and this uncertainty is not unique to Americans (e.g., Thomson Reuters, 2009). This perception of crisis has prompted scholars and practitioners alike to call for more positive approaches to leadership and organizational studies. Authentic leadership theory has developed as an important response to these calls (Avolio & Gardner, 2005), as it is specifically grounded in the fundamental role that moral and ethical issues play in effective leadership (Avolio & Luthans, 2006; Hannah, Lester, & Vogelgesang, 2005).

Authentic leadership theory emphasizes positive and developmental interactions between leaders and followers, which makes it consistent with the expanding field of positive organizational behavior (POB; Luthans & Avolio, 2009). POB is concerned with the definition, measurement, and development of positive strength-based human resources that contribute to improved performance (Luthans, 2002a, 2002b). One of POB's strongest contributions has been the development and study of psychological capital (PsyCap), which is an individual's positive psychological state of development based on self-efficacy, optimism, hope, and resilience (see Luthans, Avolio, Avey, & Norman, 2007; Luthans & Youssef, 2004; Luthans, Youssef, & Avolio, 2007).

Authentic leadership theory places great importance on PsyCap. A leader's own PsyCap is theorized to be an antecedent of authentic leadership development (Luthans & Avolio, 2003), and the development of followers' PsyCap is predicted to be one of the key outcomes of authentic leadership (Luthans, Youssef, et al., 2007). Consistent with the first prediction, evidence shows how leaders' PsyCap contributes to their authentic leadership (S. M. Jensen & Luthans, 2006). However, the second prediction, that authentic leaders enhance followers' PsyCap, has not been empirically confirmed and, therefore, provides the motivation for this article (Luthans & Avolio, 2009; Luthans, Youssef, et al., 2007). In particular, we test a model of the relationship between authentic leadership and follower PsyCap, with positive work climate as the mediating factor. We further examine the important role of gender as a moderator that influences the relationships among authentic leadership, PsyCap, and work climate (e.g., Eagly, 2005). In doing so, we contribute to the literatures of authentic leadership and PsyCap by revealing an important

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mechanism of authentic leadership's effect and by clarifying the interrelationships among these relatively new constructs (e.g., Fineman, 2006; Hackman, 2009).

Authentic Leaders

Whereas many theories of positive leadership have lacked sufficient emphasis on the ethical and moral components of leadership, authentic leadership theory makes these issues central (Luthans & Avolio, 2003; Michie & Gooty, 2005). With the incorporation of this moral and ethical perspective, authentic leadership moves beyond transformational or full-range leadership (Avolio & Gardner, 2005; Bass, 1985, 1990; Bass, Avolio, & Jung, 1999) to serve as a foundation for understanding leadership, independent of style (George, 2003; Hughes, 2005; Luthans & Avolio, 2003). As a root construct of leadership, authentic leadership is concerned with leader behaviors characterized by self-awareness, relational transparency, balanced information processing, and an ethical and moral perspective, which in turn foster a positive organizational climate and positive follower development (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008). Authentic leaders place concern for others before their own self-interest, and this combines with their ability to manage moral and ethical issues to position them at the high end of full-range leadership (Luthans & Avolio, 2003).

Authentic leaders are those who aware of their own strengths and weaknesses, consider all sides of any issue, uphold their personal moral values, and clearly communicate the rationale and goals behind their actions. Such behavior is predicted to encourage a positive organizational climate characterized by integrity, trust, and high ethical standards, and this climate should contribute to the development of followers (Avolio & Gardner, 2005; Luthans, Youssef, et al., 2007). In fact, the development of followers has been called the true test of authentic leadership (Gardner, Avolio, Luthans, May, & Walumbwa, 2005; Ilies, Morgeson, & Nahrgang, 2005). It is not enough to lead by example; authentic leaders must also foster the development of followers (Avolio & Luthans, 2006; Gardner & Schermerhorn, 2004). From this perspective, it is not possible for authentic leadership to exist without the subsequent engagement and development of followers. Leaders are not authentic unless followers perceive them as such and respond in kind (Avolio, Gardner, Walumbwa, Luthans, & May, 2004; Walumbwa et al., 2008). This makes followers, and their responses, central in the authentic leadership process.

Given the importance of followers in authentic leadership, it is essential to understand the factors that influence their responses. One of the most apparent influences acting on followers is their leader's behavior, but followers' personal characteristics are also important. Personal characteristics

can influence how followers interpret their leader's behavior (Eagly, 2005; O'Mahony, 1984). As such, understanding the role of follower characteristics is an important part of advancing authentic leadership theory. A leader's effect on followers can only be understood by taking account of how leader and follower characteristics interact to influence outcomes (Ahmad, 2008).

Our study addresses this issue by examining follower development associated with authentic leadership and the influence of gender in that relationship. The article begins by discussing PsyCap as a key aspect of follower development associated with authentic leadership and then proposes that positive work climate is a mechanism underlying this relationship. The moderating role of gender on the leadership–climate–PsyCap relationship is then examined. The hypotheses derived are tested with a national survey of working adults, and we conclude with a discussion of the results and their implications.

Follower Development

The way in which leaders influence follower outcomes is central to authentic leadership theory (e.g., Avolio et al., 2004; Gardner et al., 2005; Ilies et al., 2005). Authentic leadership has been linked to outcomes including job performance, organizational commitment, and citizenship behavior (S. M. Jensen & Luthans, 2006; Walumbwa et al., 2008), but there is a lack of empirical research investigating the specific mechanisms that produce these effects. However, there has been sufficient theoretical development to suggest that a likely explanation lies in authentic leaders' effect on their followers' PsyCap (Avolio & Luthans, 2006; Gooty, Gavin, Johnson, Frazier, & Snow, 2009; Luthans & Avolio, 2003; Luthans, Youssef, et al., 2007; Walumbwa et al., 2008).

PsyCap is a developmental statelike composite of attitudinal and cognitive resources that have a positive impact on individual performance (Luthans, Avolio, et al., 2007). This set of positive psychological states comprise individuals' confidence (self-efficacy), their belief that they will succeed (optimism), their willingness to commit to and accomplish goals (hope), and their ability to withstand and bounce back from setbacks encountered along the way (resiliency) (Luthans, Youssef, et al., 2007).

Recent research (see Luthans, Avolio, et al., 2007) has validated the four-component structure of PsyCap (i.e., self-efficacy, optimism, hope, and resilience). Empirical evidence has also shown that PsyCap reliably predicts work performance outcomes. Furthermore, PsyCap has been identified as a previously overlooked, yet highly valuable source of competitive advantage for individuals and organizations to build in much the same way that financial capital, knowledge capital, reputational capital, and social capital

have been conceptualized (see Avolio et al., 2004; Gardner et al., 2005; S. M. Jensen & Luthans, 2006; Luthans, Norman, Avolio, & Avey, 2008).

An important aspect of PsyCap is its statelike nature; it is conceptualized as being stable over time yet open to development (Luthans, Avey, Avolio, Norman, & Combes, 2006). This is in contrast to largely immutable traits, such as personality, and also to highly variable states, such as emotion (Luthans, Youssef, et al., 2007). One of the key sources predicted to develop PsyCap is authentic leadership (Avolio & Luthans, 2006; Luthans, Youssef, et al., 2007). Although this relationship has not been empirically verified, there is indirect support for it in the fact that PsyCap has been linked to many of the same outcomes as authentic leadership (e.g., Clapp-Smith, Vogelgesang, & Avey, 2009; Luthans, Avolio, et al., 2007; Luthans, Avolio, Walumbwa, & Li, 2005; Luthans et al., 2008).

Authentic leaders behave in ways that foster PsyCap among followers (see Avey, Patera, & West, 2006; Luthans, Youssef, et al., 2007). For example, authentic leaders' orientation toward follower development can encourage hope in followers as they begin to perceive pathways toward personal growth and career advancement. Moreover, authentic leaders' motivation for self-regulation supports actions that promote follower feedback and involvement. Such behavior gives followers a sense of inclusion and allows them to find their "voice." Particularly in times of uncertainty, authentic leaders who support such follower behaviors encourage a sense of ownership in the organization that is said to develop followers' resiliency and contribute to organizational resiliency (Luthans, Youssef, et al., 2007). Therefore, authentic leaders should contribute to their followers' PsyCap development.

Hypothesis 1: Authentic leadership increases followers' PsyCap.

Positive Work Climate

If it is true that authentic leaders enhance followers' PsyCap development, it is important to understand how they do so. In this regard, theory suggests that authentic leaders' effect on organizational climate is an important mechanism (Avolio & Gardner, 2005; Gardner et al., 2005; Walumbwa et al., 2008). Although authentic leadership scholars have sometimes used the terms *context*, *culture*, and *climate* as approximate synonyms (e.g., Avolio & Gardner, 2005; Gardner et al., 2005; Walumbwa et al., 2008), we use the term *organizational climate* to refer to an individual's perceptions of objective organizational characteristics that are psychologically meaningful, such as policies and practices (Schneider, 1975). Leader behavior has been identified as a significant determinant of organizational climate (Dickson,

Smith, Grojean, & Ehrhart, 2001), and authentic leaders, in particular, have been described as creating and sustaining positive organizational climates (Gardner et al., 2005).

Authentic leaders foster more moral, communicative, and supportive organizational climates by modeling their personal values, which subsequently shape the organizational values on which climate is built (Avolio & Gardner, 2005; Avolio & Luthans, 2006). This positive climate is reinforced as followers begin to adopt the organization's values, internalizing them as their own (Dickson et al., 2001). Consistent with this reasoning, Walumbwa et al. (2008) found a relationship between authentic leadership and positive organizational climate. Moreover, as authentic leaders create a positive organizational climate, followers feel more confident, hopeful, and optimistic about their work, thereby increasing their PsyCap. For instance, organizational-level resiliency reinforces individual resiliency as organizational values offer stable ways to understand and interpret events (Luthans, Youssef, et al., 2007). Therefore, we propose that positive work climate is a mechanism whereby authentic leaders influence follower PsyCap.

Hypothesis 2: The relationship between authentic leadership and follower PsyCap is mediated by positive work climate.

Influence of Gender

To this point, we have discussed the relationship between authentic leadership and follower PsyCap and how they are related as a consequence of a leader's influence on the work climate. However, followers' characteristics will also influence their response to authentic leadership. Research highlights how numerous personal characteristics, such as age, gender, and ethnicity, can affect leadership outcomes (e.g., Ahmad, 2008; McColl-Kennedy & Anderson, 2005; Vecchio & Brazil, 2007; Vecchio & Bullis, 2001). One of the most consistently important characteristics has been the effect of leaders' and followers' gender (Eagly, 2005; Eagly & Johnson, 1990; Gardiner & Tiggemann, 1999; Hogue & Lord, 2007; Watson & Hoffman, 1996). Gender has repeatedly been shown to have important effects on the leadership process (e.g., Alimo-Metcalfe, 1995; Antonakis, Avolio, & Sivasubramaniam, 2003; Avolio, Mhatre, Norman, & Lester, 2009; Eagly, Johannesen-Schmidt, & van Engen, 2003; Eagly & Johnson, 1990; Gardiner & Tiggemann, 1999). Moreover, women's increasing access to managerial and leadership positions supports the importance of gender as a variable of interest in leadership research (e.g., Eagly, Karau, & Makhijani, 1995).

Therefore, we examined how follower gender moderated the effects of authentic leadership. Previous studies have investigated the effects of gender in leadership,

finding that it influences the development of positive leader–follower relationships (Vecchio & Brazil, 2007; Vecchio & Bullis, 2001), followers' positive self-evaluations (Greene, Morrison, & Tischler, 1980), and followers' optimism (McCull-Kennedy & Anderson, 2005). Each of these outcomes is closely related to PsyCap and suggests that gender may also be an important consideration in how followers' PsyCap responds to authentic leadership.

An important part of the way in which authentic leaders create positive organizational climates is through the modeling and transmission of their personal values. Dickson et al. (2001) explain how organizational leaders' personal values shape the values that are embedded in the climate of the organization. However, personal values have also been shown to be influenced by gender (T. D. Jensen, White, & Singh, 1990), and as such, male authentic leaders are likely to model and institutionalize somewhat different values than female authentic leaders. Therefore, an organization's climate might be more masculine or feminine in its values, depending on the majority gender of its leaders (see Avolio et al., 2009; Eagly, 2005; T. D. Jensen et al., 1990).

Followers' personal values are also influenced by gender (T. D. Jensen et al., 1990). For example, women have been shown to be more concerned with interpersonal treatment from authority figures, whereas men focus more on outcomes (Buttner, 2004). Therefore, the similarity between leader and follower gender should influence the degree of consistency between leaders' and followers' values. For instance, imagine a female follower in an organization with predominantly male leaders, such that those leaders' (masculine) values shape the work climate. In this example, the mismatch of gender and associated values could lead female followers to have less positive perceptions of the work climate, since it is built on male leaders' values. The converse might also occur: In an organization where the majority of the leaders are female, male followers could perceive the work climate as less accessible and positive, because of the organizational climate reflecting the leaders' (feminine) values.

The degree of congruence between leaders' and followers' values is an important element of the leader–follower relationship (e.g., Brown & Treviño, 2009; Jung, Yammarino, & Lee, 2009). For instance, evidence shows that the greater the similarity between leaders' and followers' values, the more satisfied followers are with their leaders (Meglino, Ravlin, & Adkins, 1991). Therefore, we predict that the influence of authentic leadership on positive work climate, and subsequent PsyCap development, is moderated by the similarity of leader and follower gender values (see Figure 1).

Hypothesis 3: The effect of authentic leadership on positive work climate is reduced when leader–follower gender values are dissimilar.

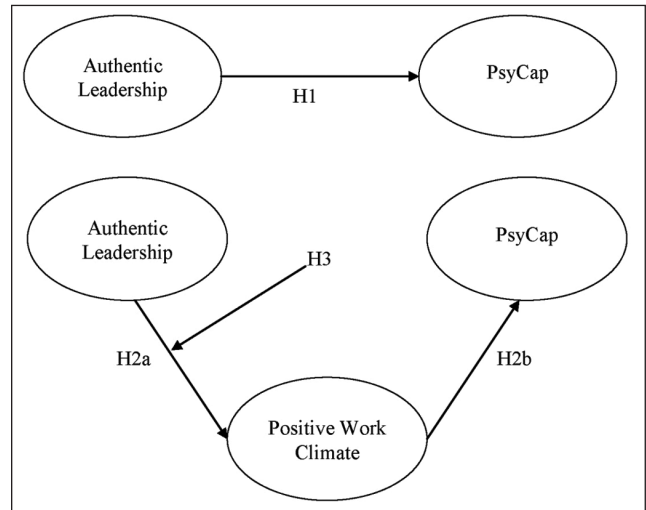


Figure 1. Theoretical model

Method

Sample and Procedure

The analysis reported here was based on archival survey data collected by the New Zealand Leadership Institute of the University of Auckland Business School in a study of that nation's authentic leadership (see Levy & Bentley, 2007). In that study, 3,000 surveys were distributed to a stratified random sample of employed New Zealand adults with an anonymous envelope for their reply. A total of 828 usable responses were received (28% response rate).

Approximately half (53%) of the respondents were female. Respondents ranged in age from 18 to 55 years, with a median of 35 to 39 years. Most respondents were full-time employees (91%) of Caucasian European descent (84%) with at least some postsecondary education (67%). The median work experience was 10 to 15 years, including a median of 3 to 7 years tenure with the current employer. These characteristics as well as the relative proportions from various industries, occupations, and organization types were consistent with New Zealand's national statistics (Statistics New Zealand, 2006), suggesting that the data were representative and did not contain significant nonresponse bias.

Measures

PsyCap was measured with the 12-item version of the Psychological Capital Questionnaire (PCQ; Luthans, Avolio, et al., 2007; Luthans, Youssef, et al., 2007; Norman, Avolio, & Luthans, 2010). The items were descriptive, first-person statements that the respondents rated on a 6-point scale of agreement (e.g., "I always look on the bright side of things

regarding my job"). *Authentic leadership* was measured using the 16-item Authentic Leadership Questionnaire (ALQ; Walumbwa et al., 2008). The ALQ contained items describing behaviors that leaders could engage in, and respondents used a 5-point scale to rate the frequency with which their leaders actually engaged in the behavior (e.g., "Leaders in my organization say exactly what they mean"). *Positive work climate* was measured with a 5-item scale developed by Avolio, based on his study of when and how leaders positively influence their organizations (Avolio & Luthans, 2006). Respondents used a 5-point scale of agreement to rate items concerning issues, such as the positive future of their organization and their ability to say what they really think.

Results

Test for Common Method Bias

Because the data were cross-sectional and provided by a single source, common method variance could have inflated the relationships among variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Following the recommendations of Podsakoff et al. (2003), we conducted two complementary tests for this bias in the data. First, we used Harman's single factor test: All items were entered in an exploratory factor analysis, in which the first factor was found to account for only 34% of the total variance, and in which both eigenvalue and scree plot analysis strongly suggested multiple factors. This suggested that common method variance was not a serious threat. This finding was further supported by a structural equation model test for common method bias. After the final model, as described below, was selected, we added an additional latent factor to account for potential method variance (see Podsakoff et al., 2003). The inclusion of this factor did not substantively change the results. Taken together, the results of these two tests suggest that common method bias is not a threat in the data.

Confirmatory Factor Analysis

We began our analysis by assessing the convergent and discriminant validity of the measures used (Anderson & Gerbing, 1988; Medsker, Williams, & Holahan, 1994). Descriptive statistics for these are provided in Table 1. A model was fit with the predicted structure: PsyCap as a second-order factor comprising hope, optimism, self-efficacy, and resilience; authentic leadership as a second-order factor comprising relational transparency, balanced processing, moral-ethical perspective, self-awareness, and positive work climate. This model had an acceptable fit with the data ($\chi^2[484] = 1927.05$; standardized root mean square residual = .05; root mean square error of approximation = .06), and all relationships between items and factors were

Table 1. Descriptive Statistics for Study Variables

Variable	Mean	SD	1	2	3
1. Authentic Leadership	3.70	0.73	.94		
2. Psychological Capital	4.78	0.63	.43*	.88	
3. Positive Work Climate	4.00	0.64	.64*	.62	.79

Note: $N = 828$. Cronbach's alpha in diagonal.

* $p < .05$.

significant and large ($\beta > .50$), suggesting that the measurement model was appropriate (Hu & Bentler, 1999). Moreover, as shown in Table 2, the predicted model had a significantly better fit with the data than any other alternative model (i.e., a single factor for all items, PsyCap as a single factor, and authentic leadership as a single factor). These results indicate convergent and discriminant validity of the measures.

Alternative Model Testing

Following Bollen and Long (1992), before examining support for our hypotheses, we compared the hypothesized model with rival models as a test of appropriateness. We compared the predicted model of authentic leadership influencing PsyCap via positive work climate with the other two logical combinations (Models 1 and 2 in Table 3). Both these models had worse fits with the data, suggesting that the best model did indeed have positive work climate in an intermediate position between authentic leadership and PsyCap. However, Model 3, which included an additional unmediated path from authentic leadership to PsyCap that was not in our hypothesized model, had a better fit with the data, suggesting that it was a more appropriate representation of the relationships. We, therefore, adopted this model for subsequent testing.

Hypothesis Testing

Hypothesis 1 states that authentic leadership will increase PsyCap, and our data were consistent with this prediction. There was a significant zero-order correlation between authentic leadership and PsyCap ($r = .43, p < .05$), and an unmediated model with authentic leadership predicting PsyCap showed a significant relationship ($\beta = .54, p < .05$) and an acceptable fit ($\chi^2[485] = 2144.37$; standardized root mean square residual = .07; root mean square error of approximation = .06). These results support Hypothesis 1.

Hypothesis 2 predicted that positive work climate would mediate the relationship between authentic leadership and PsyCap, such that authentic leadership increased the positive work climate, which in turn benefited follower PsyCap. This prediction was generally supported. In the final model (Model 3, Table 3), there was a significant positive path

Table 2. Comparison of Alternative Measurement Models

Model	Details	χ^2	<i>df</i>	$\Delta\chi^2$	SRMR	RMSEA
Base	PWC, second-order AL, second-order PsyCap	1927.05	484		.05	.06
1	Single factor for all items	4666.87	495	2739.82 (11)*	.1	.1
2	PWC, second-order AL, first-order PsyCap	2184.91	488	257.96 (4)*	.05	.07
3	PWC, first-order AL, second-order PsyCap	1983.68	488	56.63 (4)	.05	.06

Note: PWC = positive work climate; AL = authentic leadership; PsyCap = psychological capital; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation. *N* = 828.

**p* < .05.

Table 3. Comparison of Alternative Structural Models

Model	Details	χ^2	<i>df</i>	$\Delta\chi^2$	SRMR	RMSEA
Base	AL → PWC → PsyCap	1933.29	485	—	.05	.06
1	AL → PsyCap → PWC	2087.64	485	154.35	.07	.06
2	PsyCap → AL → PWC	2144.37	485	211.08	.07	.06
3	AL → PWC; AL + PWC → PsyCap	1927.05	484	-6.24 (1)*	.05	.06

Note: PWC = positive work climate; AL = authentic leadership; PsyCap = psychological capital; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation. *N* = 828.

**p* < .05.

Table 4. Comparison of Alternative Gender Equivalence Models

Model	Details	χ^2	<i>df</i>	$\Delta\chi^2$	SRMR	RMSEA
3A	No gender equivalence; construct relationships vary by gender	2753.45	1,073	—	.06	.04
3B	All three construct relationships equivalent across gender	2761.72	1,076	8.27 (3)*	.06	.04
3C	Allow AL → PsyCap to vary by gender, others equivalent	2759.68	1,075	6.23 (2)*	.06	.04
3D	PWC → PsyCap equivalent, others vary by gender	2753.74	1,074	0.29 (1)	.06	.04

Note: PWC = positive work climate; AL = authentic leadership; PsyCap = psychological capital; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation. *N* = 828.

**p* < .05.

from authentic leadership to positive work climate ($\beta = .83$, $p < .05$) and one from positive work climate to PsyCap ($\beta = .84$, $p < .05$). These results are consistent with Hypothesis 2. However, Model 3 also includes an unanticipated direct path from authentic leadership to PsyCap. This indicates that positive work climate only partially mediates the relationship. In addition to positive work climate, there are other mechanisms by which authentic leadership influences PsyCap ($\beta = -.15$, $p < .05$).

Hypothesis 3 predicted that similarity of leader–follower gender values would moderate the relationship between authentic leadership and positive work climate. To test this prediction, we refit Model 3 using a group comparison by follower gender. As shown in Table 4, the data indicate that the model requiring all relationships among the variables to be equivalent across gender (Model 3B) and the model requiring two of the three relationships to be equivalent

(Model 3C) had relatively worse fits with the data. Both the model that allowed all relationships to vary by gender (Model 3A) and the one that treated the relationship between positive work climate and PsyCap as equivalent (Model 3D) had similar fits. Therefore, based on parsimony, Model 3D is preferred. This means that the data indicate that gender moderates two of the three relationships under investigation. The relationship between positive work climate and PsyCap is the same for followers of any gender, but the other two relationships are of different magnitude for men than for women (see Figure 2). This supports Hypothesis 3.

With regard to our test of Hypothesis 3, two notes are in order. First, previous analysis has shown that the PCQ and ALQ have valid and equivalent measurement properties by gender (Caza, Bagozzi, Woolley, Levy, & Caza, 2010), which means that differences observed between respondents are genuine and not artifacts of measurement properties. Second,

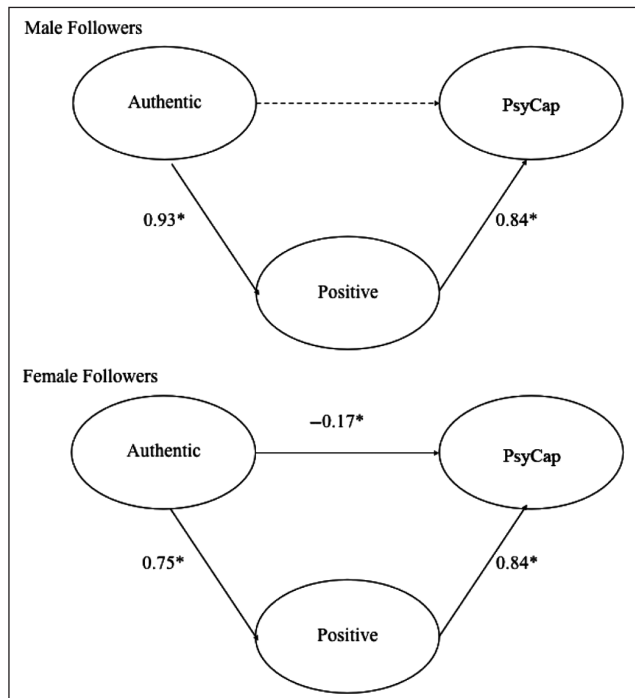


Figure 2. Gender comparison of mediated relationships among variables

Note: All paths significant at $p \leq .05$.

the Hypothesis 3 prediction concerned the similarity of leader–follower gender values, but our model incorporated only follower gender. This is because the archival data did not include information about the gender of respondents' leaders. Nonetheless, a number of patterns in the demographic data suggest that the organizational leaders were predominantly male. Specifically, female survey respondents were less likely to report being a manager or executive ($\chi^2[1] = 4.56, p < .05$), less likely to report being a business owner ($\chi^2[1] = 12.34, p < .05$), and more likely to report being a subordinate office worker ($\chi^2[1] = 94.55, p < .05$). In addition, although men and women reported equal household incomes ($F[1, 793] = 1.49, p = .22$), women reported significantly lower personal incomes ($F[1, 793] = 78.35, p < .05$). Given these patterns, and the nationally representative nature of the sample, we drew the tentative conclusion that any particular respondent's leader was most likely male. As the archival data did not include a direct measure of gender values, we used follower gender and (inferred) leader gender as proxies for each party's values. Thus, although the results were consistent with Hypothesis 3, the test of this hypothesis was an incomplete one.

Discussion

Using a nationally representative sample of working adults, this article revealed evidence to support the role of authentic leaders in fostering their followers' PsyCap development.

In particular, we found that leaders perceived as authentic by their followers were seen as contributing to a more positive work climate in the organization and that followers in more positive climates had higher PsyCap. We also found that these relationships were moderated by gender, so that the effects were somewhat different for men than for women.

This study advances authentic leadership theory in two related ways. The first is that it supports predictions about the effects of authentic leadership. The second advance is in beginning to reveal the mechanisms by which authentic leaders affect followers. Furthermore, our results highlight the need to consider the influence of follower characteristics in understanding leadership outcomes. Each of these findings has implications for future investigation and the development of authentic leadership theory.

The first implication derives from the observed support for the prediction that authentic leaders promote PsyCap development among their followers (see Avey et al., 2006; Gooty et al., 2009; Luthans, Youssef, et al., 2007). Our findings are consistent with this prediction. The positive relationship found between authentic leadership and follower PsyCap offers empirical support for one of the many organizational benefits credited to authentic leaders. Moreover, this finding offers a compelling explanation for how authentic leaders actually produce the other organizational benefits ascribed to them. Our findings suggest that the gains in job performance and commitment associated with authentic leadership (Walumbwa et al., 2008) may be the result of increases in PsyCap among followers. This seems especially likely given that PsyCap has been linked to the same employee outcomes as those associated with authentic leadership (S. M. Jensen & Luthans, 2006; Luthans et al., 2005; Luthans et al., 2008). Therefore, future studies of authentic leadership could include PsyCap as an explanatory factor, particularly with the aim of examining whether all authentic leadership effects stem from changes in follower PsyCap, or if other developmental changes are also involved.

The second contribution of this article is revealing an important mechanism by which authentic leaders affect followers: positive work climate. Followers reported a strong link between authentic leadership and positive work climate and this link mediated the authentic leadership–PsyCap relationship, supporting previous work that demonstrates how authentic leaders create more positive work climates (Walumbwa et al., 2008). Our results further suggest that increased PsyCap among followers is an important consequence of this positive climate change (also see Luthans et al., 2008). However, one of the limitations of our data was its cross-sectional nature, which prevents conclusions about causality. The data clearly demonstrate that positive work climate mediates between authentic leadership and PsyCap, but because of the nature of correlation-based analysis, we cannot be certain of the direction of

influence. Although theory and previous findings strongly support the claim that leadership influences culture which in turn influences follower development, our data are equally consistent with the opposite order of causality: High PsyCap individuals make or perceive their work climate as more positive and subsequently attribute this to authenticity in their leaders. Longitudinal or controlled laboratory research is suggested to confirm causality.

The final contribution of this article concerns its preliminary evidence about the role played by gender in the authentic leadership process. The individual benefit of a positive work climate did not vary by gender; both men and women experienced equivalent PsyCap gains from a positive culture. However, the positive influence of authentic leadership on work climate did vary by follower gender. Although both genders perceived authentic leaders as contributing to a positive work climate, the contribution was perceived as greater by male followers. Moreover, the effect of authentic leadership on male followers' PsyCap was fully mediated by work climate perceptions. In contrast, positive work climate only partially mediated the PsyCap effects of authentic leadership among female respondents. This highlights the importance of considering follower characteristics in understanding authentic leadership effects. The results suggest that comparable leader behaviors produced different outcomes among male and female followers.

Although the data clearly show the moderating effect of follower gender, data limitations prevent conclusions about the reasons for this moderation. Following Hypothesis 3, we propose that these differences stem from misfit between the gendered values of leaders and followers. If, as suggested by the demographic data, leaders in the surveyed organizations were predominantly male, then the weaker link between authentic leadership and positive work climate reported by women may reflect the mismatch between female followers' and male leaders' gender-based values. Having a positive work climate was equally beneficial to men and women, but according to this reasoning, the predominantly male authentic leaders provided a slightly less positive climate for female followers than for male followers. However, it is important to note that the data include no direct measure of gender values. Nonetheless, past research supports the influence of gender on personal values (e.g., Buttner, 2004; T. D. Jensen et al., 1990) and the link between personal values and organizational climate (e.g., Dickson et al., 2001). Together, these studies offer some support for our interpretation of the findings, but future research investigating follower characteristics should incorporate a measure of personal values to confirm their influence.

This is especially important because the results seem to allow at least two other interpretations of the moderating effect of follower gender. For one, given that prior research has found differences between men and women in how they

respond to leaders (e.g., Butler & Geis, 1990; Gardiner & Tiggemann, 1999), it is possible that the effects observed in this article are driven entirely by follower gender, irrespective of leader gender. The second alternative explanation is that the gender difference in responses might be a result of the nature of authentic leadership itself. Our interpretation has focused on gender-based values and their congruence, but it may be that authentic leadership, as defined by the ALQ instrument, is a masculine approach to leadership. As noted by Sinclair (2007), cultural stereotypes and social norms influence perceptions of leadership and authenticity. As such, the behaviors that create an impression of authentic leadership might be influenced by traditional, male-oriented leadership stereotypes. If so, this would mean that female leaders who are rated high on the ALQ have adopted and modeled more masculine, less gender-influenced personal values (Eagly, 2005) and would have the same gender-moderated effects on followers as male leaders.

In summary, although there was clearly a moderating effect from follower gender on the authentic leadership process, our data do not allow us to distinguish between three related, but subtly different, potential explanations for the moderation: (a) the moderation may result from incongruence between leaders' and followers' gender values; (b) female and male followers may have slightly different needs and expectations with regard to authentic leaders and positive work climates, thus leading to different responses; or (c) the theoretical definition of authentic leadership may be inherently masculine in nature, causing some value incongruence for female followers, regardless of the gender of their leader. These findings highlight the need to better understand the role of follower characteristics in the authentic leadership process and suggest fruitful avenues for future investigation. Follower characteristics such as gender are unquestionably influential, but further research is needed to uncover the precise dynamics at work.

Related to this matter, and equally important to understanding the role of follower gender in authentic leadership outcomes, is the unmediated path observed from authentic leadership to PsyCap among female respondents. For male respondents, the relationship between authentic leadership and PsyCap was fully mediated by positive work climate, as we expected. However, females showed only partial mediation, and a small negative path was observed after controlling for the mediation. We did not anticipate this direct path, and can only speculate as to its nature. In keeping with our focus on the gender-based value incongruence perspective, we tentatively advance the hypothesis that the negative path is a direct identification effect.

Recall that the weaker link between authentic leadership and positive work climate reported by female followers may have resulted from male leaders embedding their personal, masculine values in the work climate. To the extent

that these values were incongruent with the female followers' personal values, the authentic leadership–positive work climate relationship was attenuated. However, the proposed value incongruity may have had a further effect through personal identification. As a part of leading by example, authentic leaders can create a strong demand for similar behavior from followers (Avolio & Luthans, 2006). If the values modeled in this process are incongruent with the followers' values, those followers may experience a certain degree of dis-identification with the leader. However, this logic of personal identification might also imply a positive path for male followers of male leaders, and no such path was found in our data. Hence, we can draw no certain conclusions. The issue clearly requires further investigation.

Overall, our findings suggest that PsyCap development may be the key developmental change that authentic leaders create among their followers and that this change is largely a result of the authentic leader's effect on organizational work climate. However, consistent with authentic leadership theory, we also found evidence that followers are an important consideration in the leadership process: Follower gender was a significant moderator of the effect of authentic leadership. This shows that the role of follower gender, and follower influence more generally, in the authentic leadership process requires far more research, but also suggests that the crisis of leadership with which we opened this article may not result solely from a deficiency among leaders. We are sympathetic to the desire for more ethical and moral leaders, but consider it equally important to remember that leadership is always a collective process involving leaders and followers. It is essential that we not miss the vital role that followers play in creating leadership outcomes, both good and bad.

Authors' Note

A preliminary, abridged version of this article was presented at the 2007 annual meeting of the Australia and New Zealand Academy of Management.

Acknowledgments

The authors would like to acknowledge the members of the New Zealand Leadership Institute team for their work in compiling the extensive database from which we drew our data. We are also grateful to Ken Thompson and our reviewers as well as Bruce Avolio and Brad Jackson for comments on this article.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

Funding

No direct research funding was provided to the New Zealand Leadership Institute for the original research. However, the

authors and NZLI would like to thank BDO Spicers for their research support by printing the survey forms, data entry support by their audit staff and printing of the original research report "More right than real". The integrity and independence of the audit personnel while handling such a large data set was of great help to NZLI.

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