# THE INFLUENCE OF AUTHENTIC LEADERSHIP BEHAVIORS ON TRUST AND WORK OUTCOMES OF HEALTH CARE STAFF

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A key element of a healthy work environment is trust: trust between staff and their leaders. Authentic leadership is proposed as the core of effective leadership needed to build trust because of its clear focus on the positive role modeling of honesty, integrity, and high ethical standards in the development of leader-follower relationships. A model linking authentic leadership behaviors with trust in management, perceptions of supportive groups and work outcomes (including voice or speaking-up behavior, self-rated job performance, and burnout) using secondary analysis procedures was examined. The hypothesized model was tested using structural equation modeling in two samples of health care employees from a western Canadian cancer care agency: clinical care providers including nurses, pharmacists, physicians, and other professionals ($N = 147$) and nonclinical employees including administrative, support, and research staff ($N = 188$). Findings suggest that supportive leader behavior and trust in management are necessary for staff to be willing to voice concerns and offer suggestions to improve the workplace and patient care.

A great deal of attention has been directed to the key role of leaders in advancing an agenda for change in health care organizations to create healthier and safer practice environments for nurses, other professionals, and patients (CNAC, 2002; IOM, 2004). Furthermore, there is increasing emphasis on the connections among healthy work environments, patient safety, and the health and well-being of nurses and other professionals (Laschinger & Finegan, 2005; Vahey, Aiken, Sloan, Clarke, & Vargas, 2004). Healthy work environments

have been described as practice settings that maximize staff job satisfaction and performance through the key element of trust: trust between staff and their leaders (Kramer & Schmalenberg, 2008; Rogers, 2005). The restructuring and reengineering changes of the 1990s and a continuing focus on constrained resources have weakened health care professionals' trust in their leaders and their organizations (CNAC, 2002; Laschinger & Finegan, 2005; Rogers, 2005). In response to concerns about care quality and work environment, several reports have called for strong nursing leadership to create cultures of safety that ultimately are founded on a climate of trust (CNAC, 2002; IOM, 2004). Authentic leadership is proposed as the root component of effective leadership needed to build trust and healthier work environments that promote patient safety, excellence in care, and recruitment and retention of staff (Avolio, Gardner, Walumbwa, Luthans, & May, 2004). Specifically, this model of leadership focuses on the positive role modeling of honesty, integrity, and high ethical standards in the development of leader-follower relationships.

Trust is considered the foundation of positive organizational cultures and, in essence, defines healthy workplaces (Khatri, Halbesleben, Petroski, & Meyer, 2007; Lowe, 2006). Trustworthy leaders instill in health care staff a sense of commitment and pride in work that is manifested in increased engagement in the exploration of new ideas, a willingness to speak up about problems and make suggestions for workplace changes, and greater sensitivity to others' words and ideas (Edmondson, 1999; Spreitzer, Sutcliffe, Dutton, Sonenshin, & Grant, 2005). In work environments that are safe for patients and staff, health care professionals are able to speak openly in a trusting and nonpunitive atmosphere about issues that concern them and do so without fear of organizational reprisals (Khatri et al., 2007; Weiner, Hobgood, & Lewis, 2008). Moreover, effective leaders support and encourage staff to identify what they require to practice safely, ethically, and responsively (Cummings, Hayduk, & Estabrooks, 2005).

The specific aim of this study was to test a model linking authentic leadership behaviors with trust in management, perceptions of supportive groups and work outcomes using a health care employee dataset and structural equation modeling procedures.

## Literature Review

Authentic leadership and potential mechanisms mediating leadership influence on work outcomes form the basis of the literature review for this study.

### AUTHENTIC LEADERSHIP

Challenging phenomena—including corporate scandals, the SARS crisis, terrorism, and a threatened flu pandemic—have led to calls for higher standards of integrity, character, and accountability of leaders (Avolio et al., 2004). Emerging from theoretical discussions on the moral and ethical foundations of leadership is a focus on distilling the core elements of positive approaches to leadership. This effort has resulted in the concept of authentic leadership, which is envisioned as the root concept for positive leadership models such as transformational, charismatic, ethical, and servant leadership (Avolio & Gardner, 2005).

Authenticity is a psychological construct that reflects knowing, accepting, and acting in accord with one's values, beliefs, preferences, and emotions (Kernis, 2003). Authentic leadership is "a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviors on the part of leaders and associates, fostering positive self-development" (Avolio & Gardner, 2005, p. 321). Authentic leaders are seen as people who are hopeful, optimistic, resilient, and transparent. They operate consistently with values that include being visible to others, focusing on what is ethical or the right thing to do, taking the lead even at personal risk, making the development of others a priority, and working to ensure their communication is transparent and perceived by others as intended (Avolio et al., 2004).

Gardner, Avolio, Luthans, May, and Walumbwa (2005) described four underlying components of authentic leadership: *self-awareness, balanced information processing, authentic behavior,* and *relational transparency*. A basic principle of authentic leadership is the notion that authenticity in leadership requires heightened self-awareness (Avolio et al., 2004). *Self-awareness* is defined as "a process where one continually comes to understand his or her unique talents, strengths, sense of purpose, core values, beliefs and desires" (Avolio & Gardner, 2005, p. 324). *Balanced processing* is the

processing of self-esteem-relevant and nonself-esteem-relevant information from a relatively objective view that incorporates both positive and negative attributes and qualities (Gardner et al., 2005). Authentic leaders engage in more accurate and balanced self-assessments as well as social comparisons and act on these assessments without being diverted by self-protective motives. *Authentic behavior* involves acting in accord with one's values and needs, as opposed to acting in order to please others or receive rewards or avoid punishment. Because followers' trust in leaders is largely based on the leaders' actions, a leader's espoused values must be consistent with actions in order to be seen as acting with integrity (Gardner et al., 2005). *Relational transparency* is the final component of authentic leadership and involves the presentation of one's genuine self. It is achieved through openness and appropriate self-disclosure of one's values, identity, emotions, and motives; this transparent sharing of information enhances followers' trust in leaders (Norman, 2006). Transparency is a key component of authentic leadership that is proposed to build trust in followers.

In the Avolio et al. (2004) leadership framework, trust is a key intervening variable linking authentic leadership to followers' attitudes and behaviors. Although research in authentic leadership is relatively new, three studies have shown that relational transparency is a key component of authentic leadership and is a significant predictor of trust in the leader (Gardner, Chan, Hughes, & Bailey, 2006; Hughes, 2005; Norman, 2006). For this study, *trust* was defined as "the willingness to be vulnerable to another party" (Mayer & Gavin, 2005, p. 874). According to Mayer, Davis, and Schoorman (1995) three attributes of the trustee (i.e., leader) are critical for the development of trust: ability, benevolence, and integrity. The trustor attempts to draw inferences about the trustee's *trustworthiness* on the basis of the characteristics the person displays, such as honesty, integrity, dependability, respect, and fairness, and these inferences of trustworthiness affect work attitudes and behaviors (Dirks & Ferrin, 2002). Thus, the degree of trustworthiness of the leader may be an important leader behavior for inclusion in a model of authentic leadership, recognizing that a trustor may choose to trust even in the case of limited trustworthiness.

Authentic leadership emphasizes the key role of authentic leaders in facilitating follower development (Gardner et al., 2005). In particular, authentic leaders foster development of self-awareness and authenticity in others by offering opportunities to discover new skills, thereby enabling autonomy, competence, and satisfaction with work. Leader behaviors that are empowering and supportive have been linked to improved performance and job satisfaction outcomes. Specifically, studies found that leader-empowering behavior, such as fostering participation in decision making, expressing confidence in high performance, and facilitating goal accomplishment, was associated with increased empowerment and work effectiveness (Laschinger, Wong, McMahon, & Kaufmann, 1999), effective role performance (Hui, 1994), and decreased burnout (Greco, Laschinger, & Wong, 2006). In a meta-analysis of studies in which consideration and initiating structure leader behaviors were associated with leadership, consideration (.49) was strongly related to follower satisfaction (leader satisfaction, job satisfaction), motivation, and leader effectiveness (Judge, Piccolo, & Ilies, 2004). Consideration or supportive behavior is the extent to which the leader shows genuine concern and respect for followers, focuses on understanding their needs, and expresses appreciation and support for their efforts. Both *empowering* and *supportive* leader behaviors are consistent with the tenets of authentic leadership in fostering follower development. However, factors such as role designation and educational level may influence the importance followers assign to various leader behaviors.

In the health care literature, educational level of staff members was related to their perceptions of leadership effectiveness. Morrison, Jones, and Fuller (1997) found that the amount of variance that transformational leadership accounted for in job satisfaction was much greater for less well-educated staff or nonprofessional staff (e.g., clerks, secretaries, and nursing assistants) than for professional staff (registered nurses). An exploration of health care personnel perceptions of authentic leadership may yield significant information about followers' expectations of leaders. Leadership may have a stronger influence on nonprofessionals than on professionals, presenting a rationale for testing our

model in clinical and nonclinical samples of health care staff.

## MEDIATING MECHANISMS

Two key mechanisms through which leader behavior may influence follower work outcomes are reviewed in the following section.

### Leadership and Trust

Trust, along with fairness and respect, is a key value associated with healthy organizations (Lowe, 2006). In a meta-analysis of research findings on trust in leadership, Dirks and Ferrin (2002) reported significant relationships among trust and job satisfaction, organizational citizenship behavior, job performance, intention to quit, and organizational commitment. Specifically, transformational and transactional leadership styles, creating fair procedures, outcomes and interactional processes, participative decision-making practices, supplying organizational support, and ensuring that expectations are met were related to greater trust in leadership. Outside of organizational support, all of these variables had stronger relationships with trust in direct unit leaders than in organizational leaders. Workgroup or team processes such as group identification and support also play a role in the development of trust in the leader (Shamir & Lapidot, 2003).

Little empirical research in health care has linked trust in management with organizational variables; several of these studies were focused on nursing. Laschinger and colleagues demonstrated that trust in management mediated the relationship among structural empowerment, organizational commitment (Laschinger, Finegan, Shamian, & Casier, 2000), and nurses' job satisfaction (Laschinger, Shamian, & Thomson, 2001) in restructured health care settings in Ontario. Trust in management was rated lower than trust in peers, and findings supported the key role of empowerment activities, such as supervisory support and access to information in creating trust. No studies that examined the impact of leadership style on followers' trust in management were found in the health care literature.

### Leadership and Supportive Group

Both transformational and authentic leadership theorists contend that leaders influence group and individual performance by promoting consideration of group needs, interests, and commitment to a shared mission (Gardner et al., 2005). Transformational leadership has been shown to contribute to increased group cohesion (Jung & Sosik, 2002) and group cohesion was found to mediate the relationship between transformational leadership and group performance (Bass, Avolio, Jung, & Berson, 2003). In the health care literature, social support from colleagues was identified as an important feature of healthy work environments (Lowe, 2006).

## MEDIATING MECHANISMS AND WORK OUTCOMES

As proposed in this study, authentic leadership influences followers' attitudes and behavior through trust in the leader and perceptions of a supportive workgroup. The outcomes of concern were voice behavior (speaking up), self-rated role performance, and burnout.

### Voice Behavior

Voice (or speaking-up) behavior is conceptualized as an *organizational citizenship behavior* (OCB), also known as *extra-role behavior,* that is positive and discretionary (VanDyne & LePine, 1998). A goal of the patient safety movement is eliminating a long-standing culture of blame for errors, in part by promoting more open reporting of errors or near misses as a matter of routine and by encouraging active participation of care team members in identifying how quality of care can be improved (IOM, 2004). However, if more speaking up about issues such as near misses, breaches of procedure, mistakes, and competency concerns is required, then there will need to be greater trust in management so as to address individuals' fears of potential consequences (Firth-Cozens, 2004). Voice behavior is an act of speaking up that occurs without prompt and is not necessarily a reaction to an injustice; rather, it occurs when an individual has an idea or opinion to share for the betterment of a situation (VanDyne & LePine, 1998). Trust in leadership was found to have significant relationships with OCBs other than voice behavior (Dirks & Ferrin, 2002; Premeaux & Bedeian, 2003).

### Performance

Trust has been found to have a small but significant effect on job performance (Dirks & Ferrin, 2002).

Although trust was long assumed to be related to performance, the mechanisms by which it has an effect are not well understood (Mayer & Gavin, 2005). In some studies positive relationships between trust and performance (Davis, Schoorman, Mayer, & Tan, 2000; Pettit, Goris, & Vaught, 1997) were documented, whereas in others no relationship was found (Cropanzano, Prehar, & Chen, 1999; MacKenzie, Podsakoff, & Rich, 2001). On the basis of empirical findings of a link between trust and performance, Mayer and Gavin (2005) reported that when employees trust their leader/manager, they can focus effectively on their work. In general, few studies have linked health professionals' performance with key organizational variables, and no studies were found linking nurses' trust in their leader with self-reported role performance.

### Burnout

In essence, burnout is exhaustion, either physical or emotional, usually caused by stress at work, with affected workers most often found among human services professionals (Felton, 1998). Burnout has been studied extensively in nursing and health care in general. Lee and Ashforth's meta-analysis of the correlates of burnout (1996) confirmed that supervisor and co-worker support and peer-team cohesion are associated with lower incidence of burnout. Studies by Laschinger and colleagues (Laschinger et al., 2001; Laschinger & Finegan, 2005) have documented a relationship between lower trust in management and burnout in nurses. Finally, research has also shown a link between effective leadership styles and staff burnout: Empowering leadership behavior was associated with reduced burnout in acute care nurses (Greco et al., 2006) and resonant (emotionally intelligent) leadership contributed to reduced fatigue and emotional exhaustion among nurses in restructured hospital settings (Cummings et al., 2005).

## Theoretical Framework

The model for this study (see Figure 1) was derived from Avolio et al.'s authentic leadership theory (2004) and the framework of dyadic trust of Mayer et al. (1995). Leader behaviors that reflect the four components of authentic leadership (self-awareness, balanced information processing, authentic behavior, and relational

transparency) were expected to contribute to increased staff trust in management. Three more leader behaviors were added to the model: *supportiveness*, the degree to which the leader genuinely responds with recognition and support for followers' concerns and needs; perceived *trustworthiness* of the leader; and *empowering*, the development of followers through empowering leader behavior such as enabling autonomy. Supportiveness and empowering leader behavior influence self-rated performance and burnout indirectly through increased perceptions of being in a supportive group, and empowering leader behavior directly affects performance and burnout. In Mayer et al.'s notions of dyadic trust (1995), the development of trust in a relationship between two specific parties—a trusting party (trustor-staff) and the party to be trusted (trustee-manager)—depends on the perceived trustworthiness of the trustee. Perceived leader trustworthiness also influences followers' trust in their leader such that increased trust was hypothesized to have a positive effect on staff voice behavior and self-rated performance and a negative effect on burnout. Furthermore, leader supportiveness would increase staff trust in management through their perceptions of support within the workgroup.

## Method

Ethical approvals were obtained from both the University of Alberta Health Research Ethics Review Board and the review board of the health care facility involved to conduct a secondary analysis of data from the *WILD Study*: *Worklife Improvement Through Leadership Development* (Cummings, Spiers, Sharlow, & Bhatti, 2005–2007). Only the baseline data of the study were used. Data were collected in March 2006 via a quantitative survey of employees of a western Canadian health care agency operating 17 cancer treatment facilities within the boundaries of several health regions. A random sample of 800 employees who worked for leaders in the organization yielded completed surveys from 335 employees. This dataset was used for this secondary analysis.

### Sample

The employee dataset was divided into two groups according to the primary area of work: the clinical group comprised responses from 147 clinical provider staff,

**Figure 1.** Hypothesized Leadership Model: Latent Concepts With Indicators
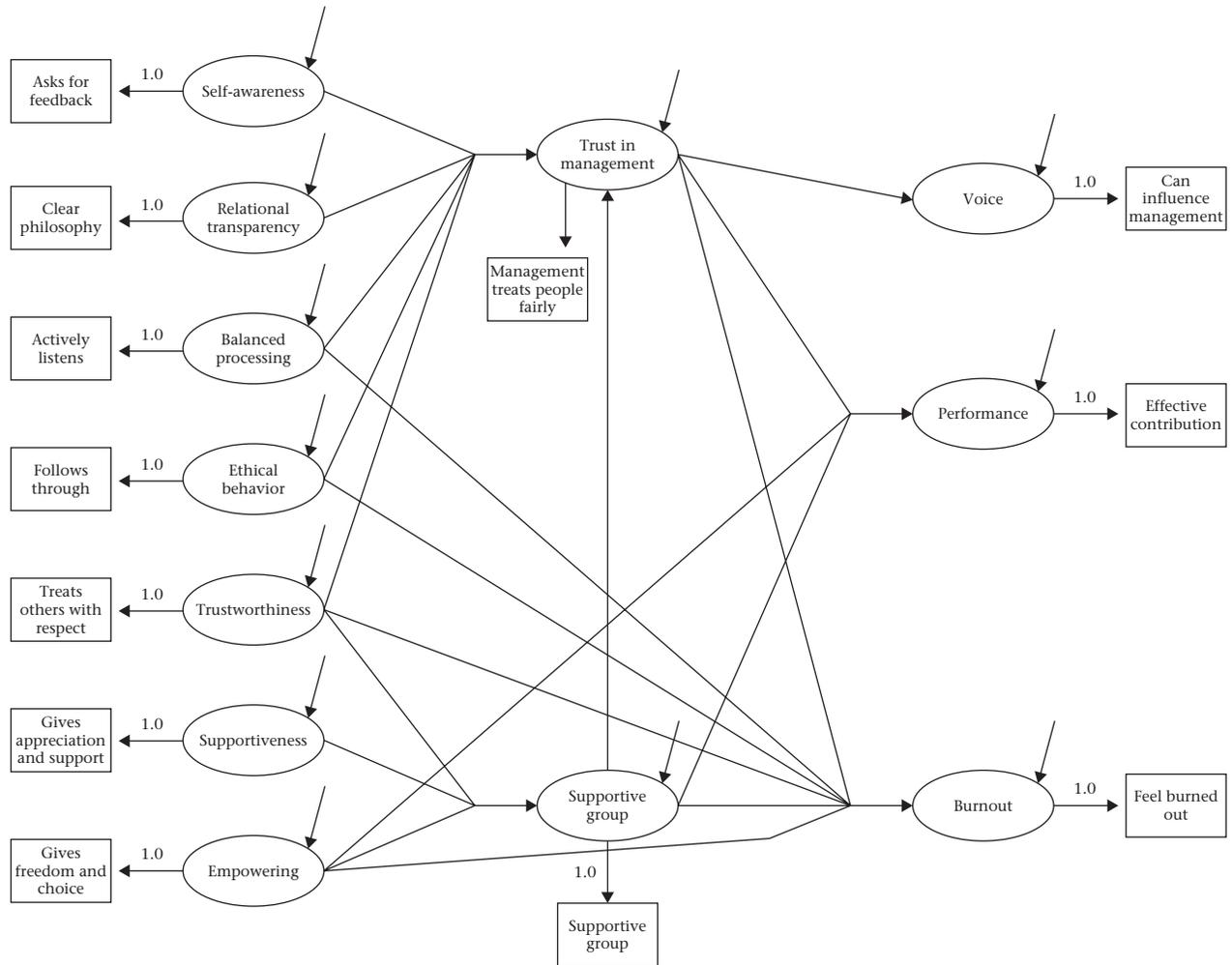


including registered nurses, pharmacists, physicians, radiation therapists, and other health care professionals; and the nonclinical group included 188 administrative, research, and support staff. Precise categorization of employees by profession was not available in the dataset, but primary area of work as clinical or nonclinical was deemed a reasonable criterion for division of the dataset into these samples. Demographic characteristics of the two groups by age and work experience are shown in Table 1.

### INSTRUMENTATION

The survey focused on staff perceptions of their emotional health and well-being, worklife conditions, and their immediate supervisors' leadership practices. Leadership practices of immediate supervisors were measured by employees using the *Leadership Practices Inventory* (LPI), a reliable and valid 30-item tool used in multidisciplinary leadership research (Kouzes & Posner, 2003). It contains six statements for each of five leadership practices: challenging the process, modeling the way, inspiring a shared vision, enabling others to act, and encouraging the heart. Perceptions of worklife were measured using the *Areas of Worklife Scale* (AWS; Leiter & Maslach, 2004). This scale comprises 29 items that produce distinct scores for each of the six areas of worklife: workload (6), control (3), reward (4), community (5), fairness (6), and values (5). The *Maslach Burnout*

## Table 1. Demographics: Means and Standard Deviations for Age and Tenure by Group

| Demographics | Clinical (N = 147) | | | Nonclinical (N = 188) | | |
|---|---|---|---|---|---|---|
| | N | Mean | SD | N | Mean | SD |
| Age | 139 | 42.02 | 10.21 | 181 | 41.04 | 11.44 |
| Tenure in profession | 147 | 16.39 | 10.13 | 187 | 12.43 | 9.83 |
| Tenure in organization | 147 | 10.73 | 9.41 | 186 | 7.24 | 6.67 |
| Tenure in department | 147 | 8.63 | 7.36 | 186 | 5.65 | 5.94 |

*Inventory General Survey* (MBI-GS; Maslach, Jackson, & Leiter, 1996) was used to measure the emotional health and well-being of staff. The MBI-GS consists of 16 questions that contain three subscales: emotional exhaustion, cynicism, and professional efficacy. Information was also collected on age, gender, work status, primary area of work, tenure in the organization, profession, and department.

### MODEL DEVELOPMENT

The theoretical model depicted the directional relationships between seven authentic leadership behaviors (causal variables) and work outcomes for staff (voice or speaking-up behavior, self-rated performance, and burnout).

### Latent Concepts

Behavior statements reflecting the latent concepts of the seven leadership behaviors were selected from the items in the LPI in which employees rated the extent to which their immediate supervisor was observed exhibiting these behaviors. Their responses were rated on a 10-point scale from *almost never* (1) to *almost always* (10; Kouzes & Posner, 2003). Differences in the means, standard deviations, and variances for the indicators in the two samples suggested initially that these two groups may reflect different responses to leadership behaviors (see Table 2). Items representing the mediating variables of trust in management and supportive group were selected from the AWS. These items were rated on a 5-point scale, from *strongly agree* (1) to *strongly disagree* (5). The work outcome variables were voice behavior, performance, and burnout. The indicators,

representing performance and burnout, answered on a 7-point scale from *never* (1) to *daily* (7), were selected from the MBI-GS. Voice behavior was measured using an item from the AWS. The specific indicator wordings of the latent concepts are presented in Table 3. Pairwise correlations among the indicator variables are presented in Table 2.

### Measurement Indicators

Each latent concept in the model was indexed to a single indicator with the $\lambda$ value fixed at 1.0 to set the scale for the latent variables to equal the scale of the observed indicator. From our assessment of how accurately each indicator reflected the corresponding underlying latent concept, an adjustment was made for the measurement quality of each indicator by assigning 10–25% of its variance as error (see Table 3). This method allowed compensation for problematic wordings, lack of clarity in some items, and other measurement concerns. Pairwise covariance matrices were created because listwise deletion would have resulted in the loss of too many cases. The average number of cases contributing to pairwise covariances was 143 and 182 in the clinical and nonclinical samples, respectively.

## Results

The theoretical model was tested using structural equation modeling procedures. The analyses were conducted using SPSS 15.0 (2006) for MS Windows and LISREL 8.54 (Jöreskog & Sörbom, 2003) for model estimations for the clinical and nonclinical groups. Maximum likelihood estimation and the $\chi^2$ test-of-fit statistic were

## Table 2. Means, Standard Deviations, and Pairwise Correlations for the Indicator Variables in Clinical Group and Nonclinical Group

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean, clinical group | 2.76 | 5.62 | 3.39 | 2.68 | 3.50 | 4.29 | 6.09 | 6.29 | 6.74 | 7.46 | 5.67 | 6.69 |
| (SD) | (1.11) | (1.66) | (1.72) | (1.11) | (1.05) | (2.79) | (3.08) | (2.91) | (2.63) | (2.56) | (3.00) | (2.63) |
| Mean, nonclinical group | 3.18 | 5.74 | 3.18 | 3.06 | 3.78 | 4.58 | 6.85 | 7.25 | 7.40 | 8.17 | 6.70 | 7.86 |
| (SD) | (1.05) | (1.60) | (1.62) | (1.08) | (.92) | (2.99) | (2.64) | (2.55) | (2.50) | (2.20) | (2.77) | (2.17) |
| 1. Voice | – | .19* | –.20* | .30** | .14 | .25** | .45** | .32** | .37** | .32** | .37** | .35** |
| 2. Performance | .06 | – | –.06 | .00 | .15 | .04 | .13 | .14 | .10 | .13 | .18* | .25** |
| 3. Burnout | –.25** | –.15* | – | –.28** | –.30** | –.13 | –.21* | –.28** | –.25** | –.26** | –.13 | –.13 |
| 4. Trust in management | .27** | .07 | –.24** | – | .42** | .45** | .46** | .41** | .49** | .47** | .46** | .35** |
| 5. Supportive group | .23** | .25** | –.24** | .28** | – | .35** | .33** | .33** | .38** | .39** | .46** | .27** |
| 6. Self-awareness | .14 | .09 | –.28** | .31** | .23** | – | .66** | .60** | .58** | .51** | .67** | .48** |
| 7. Relational transparency | .21** | .23** | –.21** | .45** | .35** | .61** | – | .63** | .75** | .64** | .72** | .56** |
| 8. Balanced processing | .34** | .26** | –.36** | .46** | .36** | .52** | .59** | – | .69** | .78** | .67** | .62** |
| 9. Ethical behavior | .29** | .27** | –.28** | .42** | .37** | .52** | .64** | .70** | – | .70** | .64** | .60** |
| 10. Trustworthiness | .22** | .11 | –.24* | .45** | .30** | .43** | .55** | .79** | .69** | – | .67** | .59** |
| 11. Supportiveness | .24** | .20** | –.39** | .53** | .45** | .56** | .65** | .71** | .66** | .68** | – | .67** |
| 12. Empowering | .28** | .08 | –.16* | .39** | .29** | .33** | .49** | .67* | .50** | .68** | .62** | – |

*Notes*: Indicator variables for the clinical group are in the shaded area above the diagonal, and for the nonclinical group in the unshaded area below the diagonal.

* = correlation is significant at the 0.05 level (two-tailed).

** = correlation is significant at the 0.01 level (two-tailed).

used to estimate and evaluate the overall fit of the model. The initial $\chi^2$ for the clinical group was 39.81 ($df = 26$, $p < .05$, RMSEA = .06, AGFI = .87) and 62.72 ($df = 26$, $p < .001$, RMSEA = .087, AGFI = .84) for the nonclinical group. The highly significant $p$ value indicated sizeable inconsistencies between the model and the covariance data (Hayduk, 1987).

## MODEL MODIFICATIONS

In considering model modifications, modification indices greater than 4 in value and theoretically reasonable were required. Reciprocal effects that would have contributed to underidentified models were avoided. The same changes in both samples would have been ideal but were not possible because generally different modification indices were indicated in each sample. In the end, one coefficient was added to the clinical model and three to the nonclinical model. We summarize the diagnostics connected to each model separately here.

**Clinical Sample**

Examination of the standardized residuals showed seven residuals exceeding a value of 2.0, with the largest standardized residual (4.02) for the covariance between the voice and relational transparency indicators. Freeing of the empowering to voice coefficient for estimation resulted in an improved and fitting model with a $\chi^2 = 29.60$ ($df = 25$, $p = .24$, RMSEA = .036, AGFI = .90). The nonsignificant $\chi^2$ $p$ value indicated that the differences between the model and data matrices could be explained by sampling fluctuations. In that model, the standardized residuals ranged from $-1.68$ to 2.92. The final clinical model included a problematic, and just barely significant ($p < .05$), negative effect between trust and performance, implying that increased trust in management contributed to lower self-rated performance, which may also be illogical. There was a very small (.001) and nonsignificant observed correlation between the corresponding two indicators (Table 2). This negative effect was present in the initial model estimates but did not become significant ($T$-value $= -1.97$) until the first modification was made.

**Nonclinical Sample**

The initial run of the nonclinical sample showed a poorer fit in terms of $\chi^2 = 62.72$ ($df = 26$) and significance ($p < .001$). In addition, the standardized residuals were more numerous than in the clinical group, reflecting sizeable inconsistencies between the actual covariances among the indicators and those implied by the model. From modification indices and theoretically plausible paths, three modifications were made: supportiveness to burnout (MI = 8.61), ethical behavior to performance (MI = 8.18), and burnout to voice (MI = 6.43). Although still not a fitting model, these changes improved the overall fit to a $\chi^2 = 41.64$ ($df = 23$, $p = .01$, RMSEA = .066, AGFI = .88).

Few single, obvious, and acceptable modifications were available that would have resulted in model fit. This might signal that several modifications could be necessary, possibly requiring variables not currently in the model.

## EFFECT ESTIMATES OF LEADERSHIP BEHAVIORS ON OUTCOMES

Only standardized effects of coefficients in the individual models are discussed here.

**Clinical Sample**

Six (30%) of the estimated 20 effects were significant in the clinical sample (Table 4 and Figure 2). Empowering was the only leadership behavior that showed significant direct effects on two of the work outcomes: voice ($\beta = .32$, $p < .01$) and performance ($\beta = .33$, $p < .01$). A series of individually significant effects run from leader supportiveness to supportive group ($\beta = .50$, $p < .01$), supportive group to trust ($\beta = .30$, $p < .01$), and finally trust to voice ($\beta = .22$, $p < .05$). The indirect effect from supportiveness to trust was significant ($\beta = .15$, $p < .05$), but the indirect effect of supportiveness on voice ($\beta = .03$) was not statistically significant. No significant direct effects between leadership behaviors and trust in management were observed. The significant negative effect leading from trust in management to performance ($\beta = -.26$, $p < .05$) was contrary to the hypothesized effect. Notice that the standard error for this coefficient was large ($SE = .20$).

Thus, in the clinical group only two of the seven leader behaviors (supportiveness and empowering) display effects on the outcome variables, and only one of

**Table 3. Indicators and the Measurement Error Specifications for the Latent Concepts in the Structural Model for the Clinical and Nonclinical Groups**

| Concept | Survey Items and Indicators (Format) | % Assessed Measurement Error | Variance | | Measurement Error Variance | |
|---|---|---|---|---|---|---|
| | | | Clinical | Nonclinical | Clinical | Nonclinical |
| **Outcome variables** | | | | | | |
| Voice | I can influence management to obtain the equipment and space I need for my work (5-point Likert) | 15.0 | 1.237 | 1.096 | 0.186 | 0.164 |
| Performance | I feel I'm making an effective contribution to what this organization does (7-point Likert) | 20.0 | 2.744 | 2.557 | 0.549 | 0.511 |
| Burnout | I feel burned out from my work (7-point Likert) | 15.0 | 2.958 | 2.686 | 0.444 | 0.395 |
| Trust in management | Management treats all employees fairly (5-point Likert) | 20.0 | 1.232 | 1.172 | 0.246 | 0.234 |
| Supportive group | I am a member of a supportive work group (5-point Likert) | 20.0 | 1.101 | .850 | 0.220 | 0.170 |
| **Background variables** | | | | | | |
| Self-awareness | Asks for feedback on how his or her actions affect other people's performance (10-point Likert) | 20.0 | 7.755 | 8.948 | 1.551 | 1.790 |
| Relational transparency | Is clear about his or her philosophy of leadership (10-point Likert) | 25.0 | 9.492 | 6.945 | 2.373 | 1.736 |
| Balanced processing | Actively listens to diverse points of view (10-point Likert) | 10.0 | 7.638 | 6.492 | 0.764 | 0.649 |
| Ethical behavior | Follows through on promises he or she makes (10-point Likert) | 10.0 | 6.927 | 6.231 | 0.693 | 0.623 |
| Trustworthiness | Treats others with dignity and respect (10-point Likert) | 15.0 | 6.569 | 4.824 | 0.985 | 0.724 |
| Supportiveness | Gives the members of the team lots of appreciation and support for their contributions (10-point Likert) | 10.0 | 8.997 | 7.656 | 0.900 | 0.766 |
| Empowering | Gives people a great deal of freedom and choice in deciding how to do their work (10-point Likert) | 15.0 | 6.930 | 4.715 | 1.040 | 0.707 |

these (supportiveness) shows any indication of working through the anticipated mediating variables of group support and trust in management. Lack of significant effects, despite several substantial non-significant standardized effects, could be a sign of multicollinearity. The amount of explained variance was 22%, 15%, and 17% for voice performance and burnout, respectively.

**Nonclinical Sample**
In the nonclinical sample, 8 (36.4%) of the estimated 22 effects were significant (Table 5 and Figure 3). Four of the leadership behaviors demonstrated significant direct effects or chains of direct effects on the three work outcomes. Relational transparency had a small but significant positive indirect effect on voice through trust in management ($\beta = .19, p < .05$). This was the only leadership behavior that directly and significantly influenced trust in management ($\beta = .64, p < .05$). Balanced processing had a direct and significant negative effect on

burnout ($\beta = -.66, p < .05$), and leader ethical behavior had a large direct significant positive effect on performance ($\beta = .37, p < .01$). Leader supportiveness had a significant indirect effect on performance through supportive group ($\beta = .14, p < .05$) and also directly reduced burnout ($\beta = -.50, p < .05$). But the indirect effect of supportiveness on voice through burnout was not significant ($\beta = .11$). In addition, notice that, unlike the clinical group, all the substantial effects were significant in the nonclinical group. The amount of explained variance was 17%, 16%, and 30% for voice, performance, and burnout, respectively.

## Discussion
Although a fitting model with a few significant effect estimates in the clinical group and a nonfitting model with several significant effect estimates in the nonclinical group were found in this study, some important issues that influence the integrity of the estimates must be

### Table 4. Effect Estimates and $R^2$ in the Clinical Group

| Outcome Variables in Rows | Trust in Management | Supportive Group | Self-Awareness | Relational Trans-parency | Balanced Processing | Ethical Behavior | Trustwor-thiness | Suppor-tiveness | Empow-ering | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| Voice | .23* | | | | | | | | .14** | .22 |
| | (.11) | | | | | | | | (.04) | |
| | **.22*** | | | | | | | | **.32**** | |
| Performance | −.39* | .33 | | | | | | | .21** | .15 |
| | (.20) | (.20) | | | | | | | (.07) | |
| | **−.26*** | **.13** | | | | | | | **.33**** | |
| Burnout | −.25 | −.38 | | | .02 | −.06 | −.10 | | .09 | .17 |
| | (.23) | (.21) | | | (.16) | (.12) | (.21) | | (.10) | |
| | **−.16** | **−.27** | | | **.11** | **−.17** | **−.30** | | **.19** | |
| Trust in management | | .31** | .21 | −.18 | −.18 | .19 | .23 | | | .50 |
| | | (.11) | (.17) | (.27) | (.16) | (.17) | (.18) | | | |
| | | **.30**** | **.54** | **−.49** | **−.48** | **.49** | **.60** | | | |
| Supportive group | | | | | | | .08 | .16** | −.07 | .30 |
| | | | | | | | (.06) | (.06) | (.06) | |
| | | | | | | | **.21** | **.50**** | **−.18** | |

*Note:* Each triplicate numerical set is unstandardized effect estimate, standard error, and standardized effect estimate (bold).

* estimate ≥ 2 standard errors.

** estimate ≥ 3 standard errors.

Figure 2. Leadership Model: Significant Paths in the Clinical Group



Figure 2. Leadership Model: Significant Paths in the Clinical Group
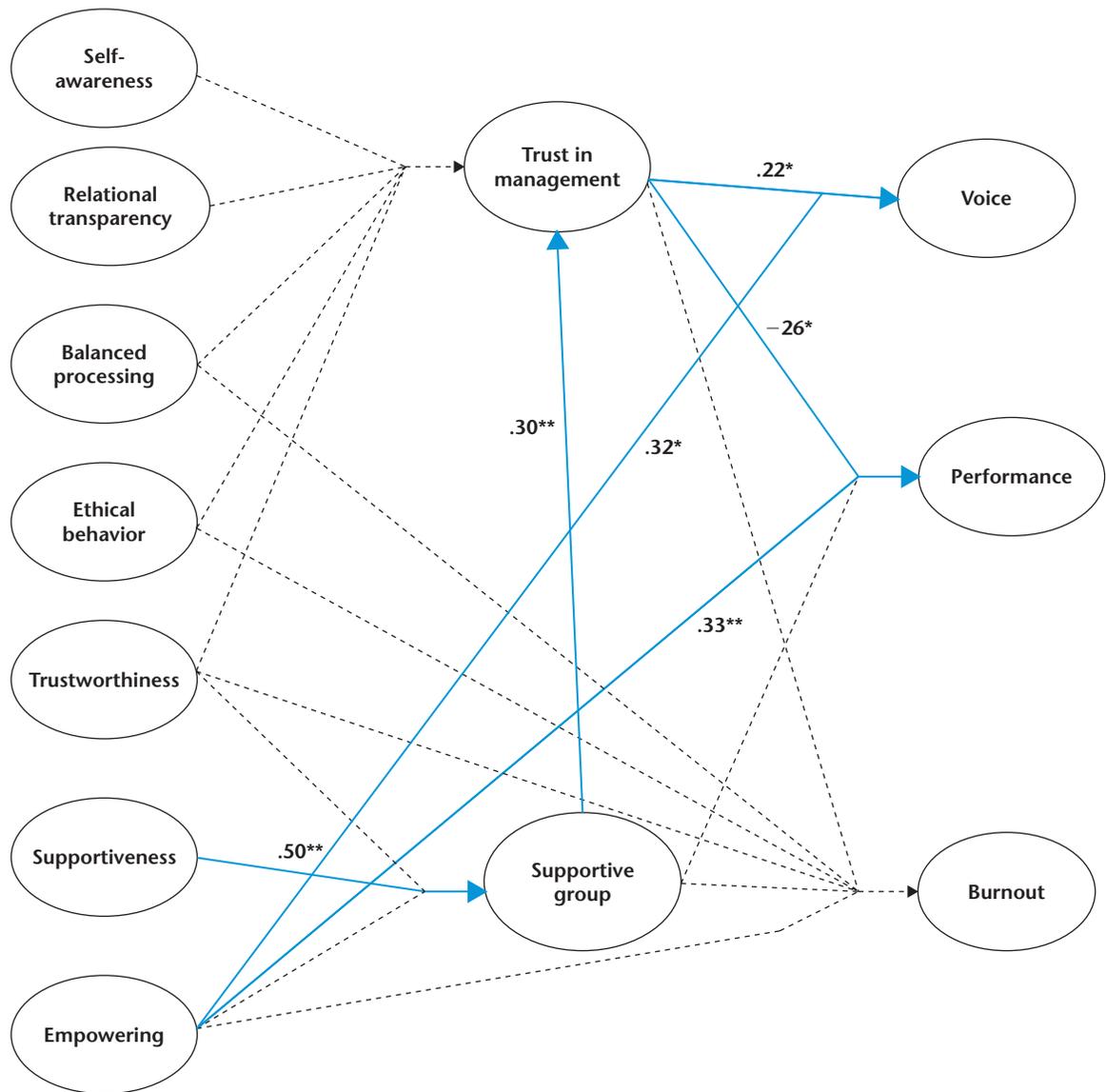
Notes: $\chi^2 = 29.60$, $df = 25$, $p = .24$; RMSEA = .036; AGFI = .90; nonsignificant path = ----▶; significant path = ——▶

*estimate ≥ 2 standard errors.

**estimate ≥ 3 standard errors.

shared. Noteworthy aspects of this work are highlighted according to (1) theoretical implications of the model, (2) the effects of leader behaviors on work outcomes including implications for management practice, and (3) study limitations that should guide future research.

THEORETICAL IMPLICATIONS

The findings of model testing give rise to several concerns that influence the trustworthiness of the effect estimates. First, the final models of the groups look quite

different in terms of patterns of effects; one model fits and the other does not, and one model displays a problem that the other does not. Only about a third of the hypothesized effects in the original model were significant in each group, so the theory seems incorrect in a number of areas.

Second, trust in management and supportive group were specified as mediating mechanisms between leader behaviors and outcomes in the model. Yet few significant indirect effects between leader behaviors and

| Outcome Variables in Rows | Trust in Management | Supportive Group | Burnout | Self-Aware-ness | Relational Trans-parency | Balanced Process-ing | Ethical Behavior | Trustwor-thiness | Suppor-tive-ness | Empow-ering | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Voice | .29** | | −.14* | | | | | | | | .17 |
| | (.09) | | (.06) | | | | | | | | |
| | **.30\*\*** | | **−.22\*** | | | | | | | | |
| Performance | −.17 | .43* | | | | | .21** | | | −.09 | .16 |
| | (.17) | (.18) | | | | | (.07) | | | (.08) | |
| | **−.12** | **.24\*** | | | | | **.37\*\*** | | | **−.14** | |
| Burnout | −.04 | −.14 | | | | −.41* | .09 | −.23 | −.26* | .26 | .30 |
| | (.17) | (.19) | | | | (.17) | (.11) | (.23) | .10 | (.13) | |
| | **−.02** | **−.08** | | | | **−.66\*** | **.14** | **.31** | **−.50\*** | **.35** | |
| Trust in management | | 0.11 | | −.09 | .27* | .07 | −.07 | .09 | | | .43 |
| | | (.11) | | (.07) | (.11) | (.11) | (.08) | (.13) | | | |
| | | **.09** | | **−.25** | **.64\*** | **.17** | **−.17** | **.18** | | | |
| Supportive group | | | | | | | | −.02 | .19** | −.02 | .29 |
| | | | | | | | | (.08) | (.05) | (.07) | |
| | | | | | | | | **−.04** | **.60\*\*** | **−.04** | |

*Notes:* Each triplicate numerical set is unstandardized effect estimate, standard error, and standardized effect estimate (bold).

* estimate ≥ 2 standard errors.

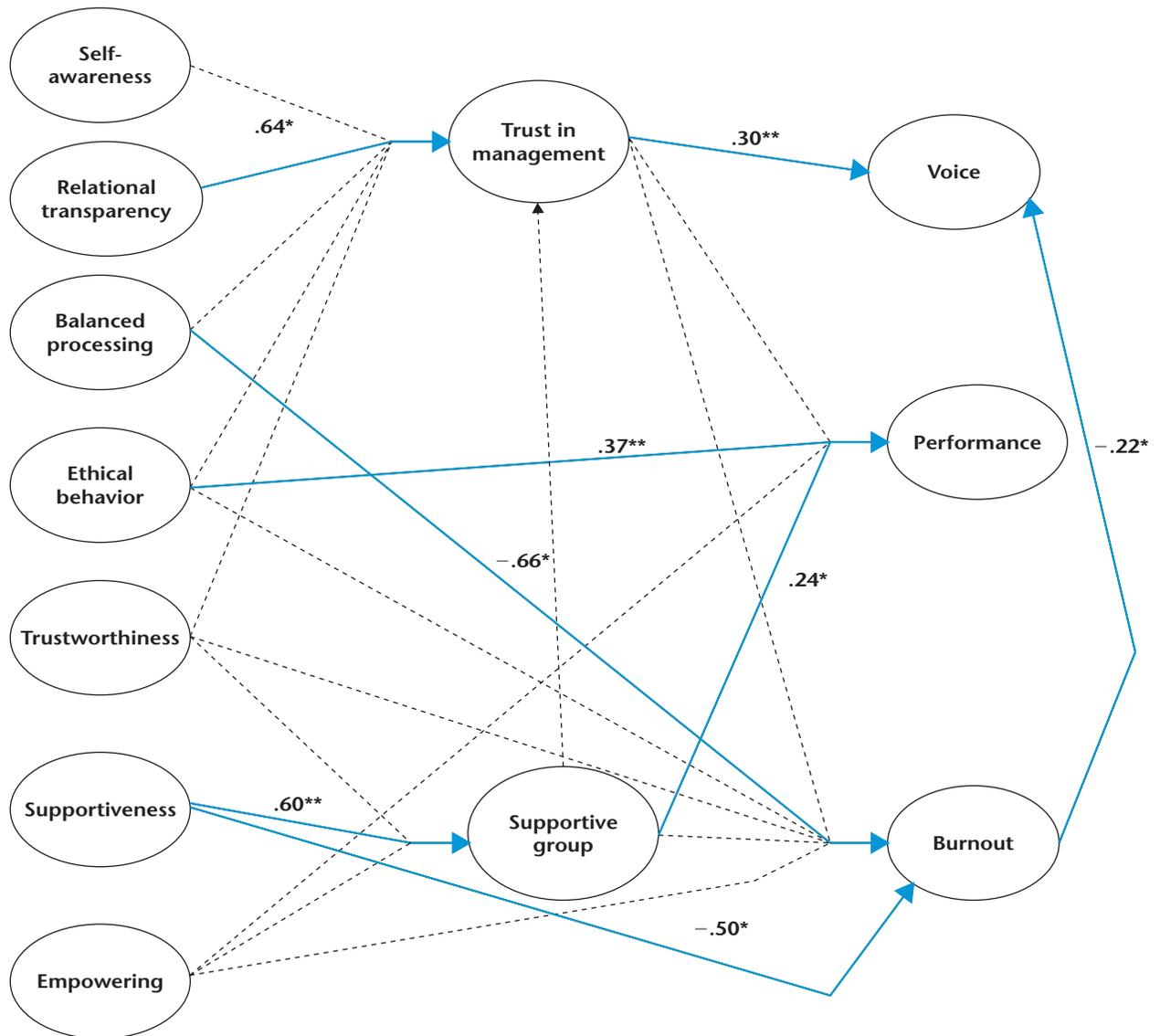** estimate ≥ 3 standard errors.

outcomes suggest that the indicators used for these two mediating concepts may have been less than ideal. All the model modifications bypassed these mechanisms by going directly from background variables to the outcome variables, or as effects between the outcome variables (e.g., empowering to voice in the clinical model and burnout to voice in the nonclinical model). Thus, many data suggest rejection of these two mediating mechanisms.

Third, the lack of significant effects for several of the leadership behaviors despite substantial estimates of the effects is one sign of potential collinearity problems. One effect in the nonclinical group from relational transparency to trust was significant at $\beta = .64$ ($p < .05$), but sizeable correlations among the exogenous latents (leader behaviors) in the clinical group (.62 to .92) could result in enlarged standard errors of the estimates and hence the statistical insignificance of seemingly substantial effects. To investigate the

impact of the degree of measurement error on the collinearity issue in the clinical model, the originally asserted measurement errors on the exogenous variables that showed some of the highest intercorrelations were halved, and the effect estimates (size, standard errors, and significance) of these variables with trust were scrutinized. All estimates that previously ranged from −.49 to .60 (standardized) in the original final model decreased in size, as expected, to a range of −.17 to .30. The standard errors decreased as well, from a range of .16 to .27 by almost a third to a range of .05 to .07. In all cases the significance level increased although none of the estimates reached significance ($T$ values ranged from −.67 to 1.24 in the original model and increased to a range of −.94 to 1.53). These observations suggest that linking the meaning of the latent variables more closely to the specific meaning of their respective indicators by reducing measurement error allows greater separation of the unique effect of each leader behavior on trust.

**Figure 3.** Leadership Model: Significant Paths in the Nonclinical Group

*Notes*: $\chi^2 = 41.64$, *df* = 23, *p* = .01; RMSEA = .066; AGFI = .88; nonsignificant path = - - - - ▶ ; significant path = ——▶

*estimate $\geq$ 2 standard errors.

**estimate $\geq$ 3 standard errors.

Last, reciprocal effects in the model were purposely not included to avoid identification problems, but it is quite possible that a reciprocal effect could exist between burnout and voice. Ignoring real reciprocal effects can lead to biased estimates of effects in an otherwise recursive model or to the missed realization that reciprocal effects may actually yield an equivalent or nearly equivalent explanation of causal forces (Hayduk, 1987).

## EFFECTS OF AUTHENTIC LEADERSHIP BEHAVIORS ON WORK OUTCOMES

The only authentic leader behaviors to have an effect on voice were relational transparency (indirect effect) in the nonclinical sample and empowering (direct effect) in the clinical sample. Hughes (2005) and Norman (2006) found in experimental studies that leaders perceived to be more relationally transparent also elicited higher ratings of follower trust. Authentic leaders value and work

to achieve transparency and truthfulness in their relevant relationships (Avolio et al., 2004). Asking for feedback, listening to and accepting others' points of view, openly sharing information, and acting on suggestions are important leader signals that set a standard for others in the organization. If transparent leader communications enhance trust and facilitate others to be open and voice ideas and concerns, then this leader behavior may be important to facilitate patient safety in health care organizations (Khatri et al., 2007). Though the amount of model-explained variance for voice behavior was slightly higher in the clinical group, findings showed that a moderate amount (17–22%) of voice behavior was explained in both groups, lending support to the transparency-to-trust-to-voice relationship. Empowering leader behavior also had a direct effect on voice as well as performance in the clinical sample, suggesting that allowing staff to have freedom and choice in accomplishing their work may have a more meaningful effect for clinical professionals than other staff in terms of voicing concerns and assessing the value of their work contributions (Morrison et al., 1997).

In the nonclinical sample, there were significant effects from leader supportiveness (indirectly) and ethical behavior (directly) on performance. The amount of model-explained variance for performance was small but very similar in both groups (15% clinical and 16% nonclinical). Many additional factors within individuals and the work environment not included in our model may influence performance. Even though measurement error in the indicator for performance was accounted for, the use of a self-rated rather than an objective measure of performance may have contributed to biased responses in this study. Researchers have argued that some subjective measures of job performance have a high potential for bias thanks to factors such as negative affectivity and social desirability (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Balanced processing by the leader, measured as "listening to diverse points of view," had a moderate negative effect on burnout in the nonclinical group, indicating that sensitivity to varying opinions and ideas may play a role in preventing or reducing burnout. Also, leader supportiveness had a moderate negative effect on burnout in the nonclinical sample, suggesting the importance of leaders recognizing and supporting their

staff. In fact, the amount of explained variance for burnout was double (30%) that in the clinical sample (15%), suggesting different processes related to burnout in these groups. The prevalence and pattern of burnout has been shown to vary considerably across occupations, while nurses have reported some of the highest levels of burnout compared with other groups (Bakker & Heuven, 2006). It may be that these differences accounted for the lack of any significant effects on burnout in the clinical group because nurses were aggregated with other health professionals. The significance of excessive workloads for clinicians in hospital settings has been well documented (CNAC, 2002; IOM, 2004; Vahey et al., 2004). Perhaps no amount of supervisor support can compensate for an overwhelming workload. Interestingly, burnout was negatively related to voice in the nonclinical group, and this relationship has not been reported in the literature.

In both groups, supportive leader behavior had significant effects on perceptions of being in a supportive group, which signals the value of authentic recognition and support behavior in setting the tone and climate for positive group perceptions. The fact that the supportive group variable had a mediating effect between supportiveness and trust in management in the clinical group may indicate, as Shamir and Lapidot (2003) asserted, that workgroup identification or support influences perceptions of the development of trust in management. Supportive group mediated the relationship between leader supportive behavior and self-rated performance in the nonclinical group, but not in the clinical group. The nonclinical group of health care employees may rely more on supportive group perceptions in terms of rating their own contribution to their organization, whereas clinicians may derive more evidence from their interactions with clients/patients in terms of evaluating their performance (Morrison et al., 1997). In many health care settings, patient care managers have a broad span of control that often includes clinicians and support and administrative staff. Our findings suggest that leaders need to be aware of the potential differences in group perceptions of important leader behaviors and their potential causal connections to work outcomes.

Differences in the model effects in the groups point to the importance of testing theory in homogeneous groups. This may indicate that health care professionals

interpret leader behaviors differently from other staff. They may need another degree of direction or support, as evidenced by the positive effect of empowering leader behavior in the clinical group.

## STUDY LIMITATIONS

A key limitation is that this study was a secondary analysis, which created challenges in finding items that fit the concepts in the proposed model. For example, it was difficult to find an indicator that reflected the respondent's "trust in my manager," and the item selected may not have adequately differentiated trust in one's immediate supervisor from trust in the organization's management. To mitigate this limitation, the sensitivity of this model to the measurement error specifications were explored in a series or 24 runs for each group in which the measurement error variance for each indicator was individually fixed at half, and then at double, the assigned measurement error variance value displayed in Table 3 (Hayduk, 1987). Results demonstrated that the model was reasonably insensitive to alterations in the precise measurement specifications because no noteworthy changes in model fit and effect estimates arose. Because the baseline dataset was used for model testing, reliance on cross-sectional data is a limitation and a prospective or longitudinal design to test the model is warranted. Respondents represented clinical care providers and nonclinical staff in cancer settings which precludes generalizability to similar groups in other settings. Selection bias may be inherent in those who chose to respond to the survey although a random sample was chosen for survey distribution.

## Conclusion

This study highlights the importance of trust in leaders in health care organizations. Findings suggest that supportive leader behavior and trust in management are necessary for staff willingness to voice concerns and offer suggestions for workplace improvements, including patient care. With little systematic study of trust and outcomes in health care, this study is important because it identified a positive link between trust in management and staff voice behavior. Increasing knowledge of factors that contribute to voice or speaking-up behavior are essential to creating safer care environments. These work environments require more open reporting and review of errors and active participation by care team members to identify how care can be improved. The significant effects among leader supportiveness, trust in management, staff performance, and supportive group in the clinical group underscore the influence of leader support behaviors on group processes. Health care leaders can improve the quality of care and workplace conditions by paying attention to their role in facilitating positive and cohesive team processes within their workgroups. Future research should include a prospective study using a valid measure of leader authenticity and a trust-in-management scale that measures the extent to which staff trust their immediate supervisor. Incorporation of both leader and staff perceptions of authentic leadership behaviors and an objective measure of performance should be included in future studies. Given the significant effect of supportive group on outcomes, this should be explored in future work as a key leadership mechanism.

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