# Multi-Level Analysis of Authentic Leadership from a Turkish Consruction Engineers Perspective

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## Abstract:

Authentic leaders are leaders who when called upon by the hand of fate, will be the ones who take a stand that changes the course of history for others, be they organizations, departments or just other individuals (May, Chan, Hodges & Avolio, 2003). That's the answer of why authentic leadership? In this study we explore authentic leadership in Turkey from a multilevel perspective. We used the authentic leadership measure developed by Walumbwa, Avolio, Gardner, Wernsing and Peterson in 2008. We also tested the generalizability and validity of the AL measure in a different cultural context.

## 1. Introduction

"When leaders are dedicated stewards and lead in an authentic manner, they build enduring organizations that do great good for people and make an enormous difference in the world" (George, 2003). But what is authenticity? Harter (2002) defines authenticity as "to thine own self be true". The meaning of the word authentic is original, genuine, principal, reliable, trustworthy. The authentic person is one acting on his/her own authority, in other words doing the right thing as a choice of one´s own, not beceause of social pressures. Kernis and Goldman (2005) defined authenticity as "the unimpeded operation of one's true or core self in one's daily interactions with others". So it requires acting in a way compatible with one's values and needs.

Authenticity takes place both in philosophy and psychology. In existentialist philosophy, authenticity is the degree to which one is true to one's own personality, spirit, or character, despite external forces, pressures and influences. So it cannot be said that someone is authentic or not authentic because it is a matter of degree. Everyone is more or less authentic, according to the person. On the other hand, in psychology authenticity refers to the attempt to live one's life according to the needs of one's inner being, rather than the demands of society or one's early conditioning. However, the meaning of the "needs of one's inner being" is subjective and culture bound. In the emerging field of positive psychology (Seligman, 2002), authenticity can be defined as "owning one's personal experiences (thoughts, emotions, needs, wants, preferences, or beliefs) and acting in accord with the true self (behaving and expressing what you really think and believe)" (Harter, 2002).

Kernis (2003) proposed that achieving authenticity brings "optimal" levels of self-esteem. When individuals know and accept themselves, their strengths and weaknesses, they display high levels of stable self-esteem. Such individuals can build transparent, open and close

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relationships with others. Furthermore, they display authentic behavior that reflects consistency between their values, beliefs, and actions. Similarly, Ryan and Deci (2003) asserted that authenticity is achieved when individuals' behaviors are guided by internal values as opposed to external threats, inducements, or social expectations and rewards.

## 1.1. Authentic Leadership

Luthans and Avolio (2003) integrated the fields of positive organizational behavior, transformational and moral/ethical leadership into a broader framework of authentic leadership. They proposed that the confluence and synergy of all three approaches through authentic leadership may best meet what most informed observers agree is a turning point, a paradigm shift, in the way societies and organizations must be led in order to survive, let alone thrive and gain competitive advantage.

Luthans (2002) defined positive organizational behavior (POB) as "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement". The concept was built on the work of Seligman (1998) on positive psychology which focuses on the propagation and nurturing of positive feelings opposed to traditional clinical psychology, focusing on the repair of unhappy states and pathologies. Positive psychology is interested in what is right with people and their strengths. Luthans proposes POB as focusing on positive feelings, in general, and on the sub-concepts of confidence/self-efficacy, hope, optimism, subjective well-being/ happiness, and emotional intelligence, in particular (Yammarino, Dionne, Schriesheim & Dansereau, 2008). As is the case in POB, authentic leaders approve his/her followers' diferences and focus on strengthen their capabilities (Luthans and Avolio, 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 (Luthans & Avolio, 2003). Avolio, Luthans & Walumbwa (2004b) defined authentic leaders as "those who are deeply aware of how they think and behave and are perceived by others as being aware of their own and others' values/moral perspectives, knowledge, and strengths; aware of the context in which

they operate; and who are confident, hopeful, optimistic, resilient, and of high moral character" (as cited in Avolio, Gardner, Walumbwa, Luthans & May, 2004a).

## 1.2. The Components of Authentic Leadership

The authentic leadership  models proposed by Ilies, Morgeson & Nahrgang (2005) and Gardner, Avolio, Luthans, May & Walumbwa (2005) are heavily influenced by Kernis's (2003) authenticity conception and Deci and Ryan's (2000) self-determination theory. Furthermore, Avolio and Gardner (2005), Luthans and Avolio (2003), and May et al. (2003) have argued that authentic leadership includes a positive moral perspective. Building on these previous studies Walumbwa et al. (2008) conceptualized authentic leadership as being composed of five distinct but related components: self-awareness, relational transparency, balanced processing of information and internalized moral perspective. Self-awareness refers to knowing and accepting one's strengths and weaknesses and being aware of one's impact on other people. Relational transparency refers to presenting one's real self to others, openly sharing information and one's true thoughts and feelings. Balanced processing refers to analyzing all relevant data objectively before coming to a decision. Internalized moral perspective refers to achieving behavioral integrity (consistency between values and actions) which is guided by internal moral standards and values versus societal pressures.

To include the dimensions of the construct, Walumbwa et al. (2008) updated Luthans and Avolio's (2003) definition as "a pattern of leader behavior that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development".

## 1.3. Authentic Leadership from a Multi-level Perspective

In social sciences hierarchical data structure is very common. It means the units observed are nested in a hierarchical structure, for example employees are nested in groups, groups in departments, departments in organizations. The problem with a hierarchical dataset is that observations from the same hierarchical unit can not
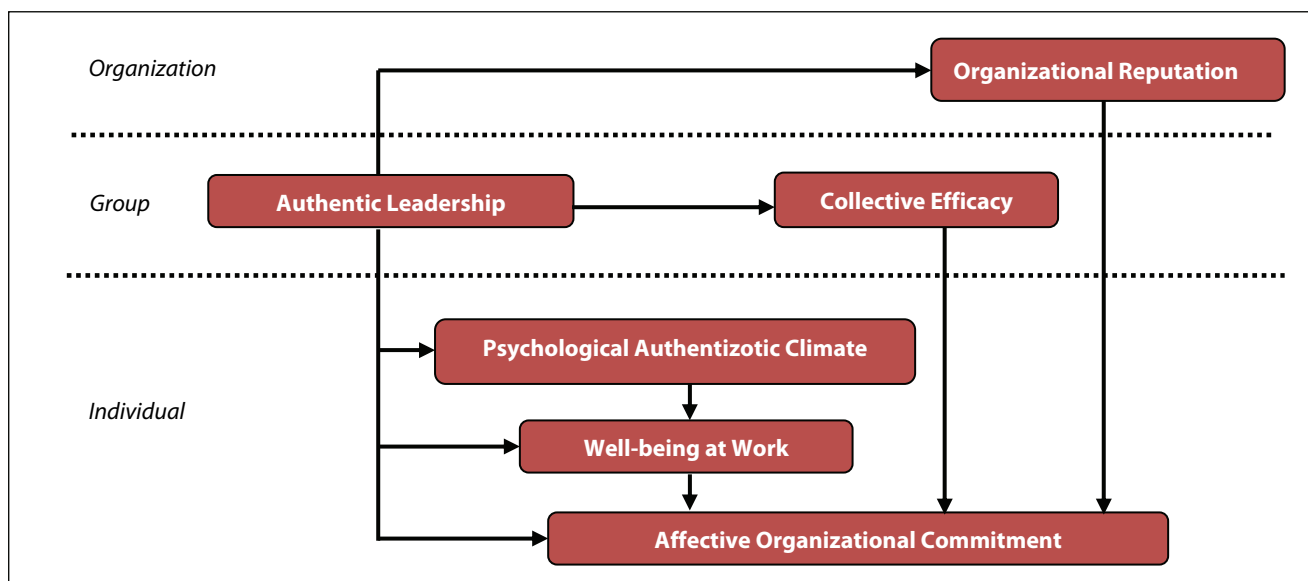
**Figure 1:** Hypothesized Model

be decsribed as independent, because observations in the same hierarchical unit will have similar characteristics. Suppose that we conduct a survey measuring satisfaction with a supervisor. The employees of the same department who are the direct reports of the same supervisor will answer the questions similarly, because they all assess the same supervisor, so we can not say that the observations are fully independent. In contrast with this situation, the most important assumption in statistical analysis procedures is the independence of observations, so we must use another pocedure, namely hierarchical linear modeling, with our hierarchical dataset.

Most statistical inference is based on replicated observations of units of analysis of one type (e.g., a sample of individuals, countries, or schools). However, the complexity of social reality and social science theories often calls for more complex data sets, which include units of analysis of more than one type. Multilevel analysis is a general term referring to statistical methods appropriate for the analysis of data sets comprising several types of unit of analysis (Snijders, 2003). In this study, we analyze individuals, groups and organizations as units of analysis. Those units of analysis are hierarchically nested; individuals in groups, groups in organizations. Individuals form level 1, the most detailed level, groups level 2 and organizations level 3 of the analysis.

Dansereau, Alutto & Yammarino (1984); Klein, Dansereau & Hall (1994); Dansereau & Yammarino (2000); Dionne, Randel, Jaussi & Chun (2004) put forth the guidelines of theoretical formulation and empirical testing for multiple levels of analysis. The most important methods of multilevel analysis are variants of regression analysis designed for hierarchically nested data sets. The main model is the hierarchical linear model (HLM), an extension of the general linear model in which the probability model for the errors, or residuals, has a structure reflecting the hierarchical structure of the data. For this reason, multilevel analysis is often called hierarchical linear modeling. The dependent variable in the HLM always is a variable defined at the lowest (i.e., most detailed) level of the hierarchy. An important feature of the HLM is that the independent, or explanatory, variables can be defined at any of the levels of analysis (Snijders, 2003). In accordance with that rule our dependent variable is affective organizational commitment defined at level 1. The independent variables are psychological authentizotic climate, well-being at work, authentic leadership, collective efficacy, and organizational reputation defined at levels 1, 2 and 3.

In this study we explore authentic leadership theory from a multi-level perspective. We propose that an authentic leader (1) enhances the psychological authentizotic climate of his/her followers, supports their well-being at work and finally provides affective organizational commitment of his/her followers on an individual level; (2) heightens collective efficacy among the group members in group levels that in turn deepens the affective organizational commitment of followers and (3) improves organizational reputation at the organizational level that in turn deepens the affective organizational commitment of followers. We

strengthen our proposals with related literature as shown below and try to support them with empirical evidence. Figure 1 illustrates the hypothesized model.

## 2. Theory and Hypotheses

### 2.1. Authentic Leadership and Affective Organizational Commitment

Meyer and Allen (1987), conceptualized organizational commitment as the integration of three related but distinguishable components. The affective component of organizational commitment refers to employees' emotional attachment to, identification with, and involvement in the organization. The continuance component refers to commitment based on the costs that employees associate with leaving the organization. The normative component refers to employees' feelings of obligation to remain with the organization. Employees with strong affective commitment remain because they want to, those with strong continuance commitment because they need to, and those with strong normative commitment because they feel they ought to do so (Allen and Meyer, 1990).

In this study we focused on the affective component of organizational commitment because as Allen and Meyer (1990) empirically proved in their study, employees who feel comfortable in their roles and who feel competent in their jobs express greater affective attachment to the organization. We propose that through empowering his/her followers authentic leaders make them feel competent in their work; through transparent relationships, ethical role modeling and strengthening them for behaving compatible with their inner/core beliefs, authentic leaders make them feel comfortable in their roles and so enhance their affective organizational commitment. Walumbwa et al. (2008) also proved the positive relation of authentic leadership to organizational commitment empirically with samples obtained from China. Moreover, Avolio and Gardner (2005) asserted that "leadership can make a fundamental difference in organizations by helping people find meaning and connection at work through greater self-awareness; by restoring and building optimism, confidence and hope; by promoting transparent relationships and decision making that build trust and commitment among followers; and by fostering inclusive structures and positive ethical climates."

H$_1$ : Authentic leadership is positively related with affective organizational commitment.

### 2.2. Authentic Leadership and a Psychological Authentizotic Climate

Kets de Vries' (2001) advanced the concept "authentizotic organization" to describe an organization that is trustful and reliant, and vital to life. The authentizotic theory suggests that organizations can enhance psychological well being, sustain developing positive self-esteem and self-determination. From this perspective it is very similar to authentic leadership because both of them are positive theories and focus on strengths while improving weaknesses.

The instrument developed by Rego and Souto (2005) for measuring authentizotic psychological climates was intended to measure employees' perceptions of workplace characteristics, not real workplace characteristics. Psychological climates are the "individual's psychologically meaningful representations of proximal organizational structures, processes, and events" (Parker et al., 2003). The instrument is composed of six factors: spirit of camaraderie, trust/credibility of the leader, open and frank communication with the leader, opportunities for learning and personal development, fairness and work–family conciliation. Except for the work–family conciliation factor, other factors concur with authentic leadership components. Authentic leaders build transparent relationships based on trust, truth and intimacy, treat followers similarly, fairly, empower followers and support developing their self-determination.

The construct of psychological climate influences important individual-level outcomes (e.g., motivation, commitment, satisfaction and performance) (Rego and Cunha, 2008). Martin, Jones and Callan (2005) also observed that "employees whose perceptions of the organization and environment in which they were working (…) were more positive, were more likely to appraise change favorably and report better adjustment in terms of higher job satisfaction, psychological well being, and organizational commitment, and lower absenteeism and turnover intentions". Similarly Parker et al. (2003) suggested that psychological climates "do have reliable relationships with employees' work attitudes, psychological well being, motivation and performance".

Rego and Cunha (2008)'s empirical research on authentizotic psychological climates displayed that psychological climates explain unique variance of stress, well being at work and performance. They especially underline that it is important to take into account the perceptions of followers while searching for well being, because often followers' subjective perceptions and evaluations are more significant and determinant for their well being than the actual situation. So while searching for well being, it is more proper to use pyschological climate than organizational climate. Compatible with previous studies' results we propose that followers who perceive their leaders as authentic, perceive their organizations as more authentizotic and feel greater well-being at work.

H$_2$ : Authentic leadership is positively related with authentizotic psychological climates.

## 2.3. Authentic Leadership and Well-Being At Work

Affective well-being is based on theories of happiness and defined as the balance of pleasure and displeasure in people's lives (Sumner, 1996). Positive organizational studies focus on developing people's strengths to help people achieve happiness. When we think that an average person spends nine hours at work each weekday the workplace must have an important role in his/her well-being. Gavin and Mason (2004) asserted that "It seems clear that if there is any hope for people to find general happiness in their lives today, they must be happy at work. Work by itself, of course, cannot make a person happy, but a person cannot be genuinely happy if he or she is unhappy at work". So we can say that if a leader makes his/her followers feel happy at work, he can heighten their performance and easily motivate them for organizational goals. Because positive emotions play a crucial role in coping with stress, happiness will improve employees' productivity and engagement. Authentic leadership is closely related to positive organizational behavior, hence positive pyschology, we suggest, is also strictly related with follower happiness. We propose that an authentic leader will promote his employees' happiness and positive emotions through transparent relationships, behavioral integrity, high moral standards and honesty. Trust and credibility in leaders, as well as open and frank communication with them, may strengthen the employees' feelings of emotional support,

improving their well being (Aycan and Eskin, 2005; Kramer and Tyler, 1996).

Avolio et. al. (2004) assert that "authentic leaders act in accordance with deep personal values and convictions, to build credibility and win the respect and trust of followers by encouraging diverse viewpoints and building networks of collaborative relationships with followers, and thereby lead in a manner that followers recognize as authentic. As this process cascades to followers, they may also operate in a similar manner, portraying to leaders, colleagues, customers and other interested stakeholders their authenticity, which over time may become a basis for the organization's culture". On the other hand, Luthans and Avolio (2003) described the characteristics of an authentic leader as confident, hopeful, optimistic, resilient, transparent, moral/ethical, future-oriented, and associate building (gives priority to developing associates to be leaders). So we think that as this process cascades to followers, they also be as confident, hopeful, optimistic, resilient, moral/ethical and future-oriented as their leader. We propose that this cascading authenticity enhances followers' well-being at work. In accordance with our purposes Avolio and Gardner (2005) suggested that "through increased self-awareness, self-regulation, and positive modeling, authentic leaders foster the development of authenticity in followers. In turn, followers' authenticity contributes to their well-being and the attainment of sustainable and veritable performance." Ilies et al. (2005) argued that "when leaders display unbiased processing of self-relevant information, personal integrity, and an authentic relational orientation, leader–follower relationships will be characterized by high levels of respect, positive affect, and trust. High quality and close relationships will in turn foster greater value congruence and follower reciprocation in the form of behavior that is consistent with the leader's values. Such reciprocity is posited to result in greater authenticity, and well-being among followers" (as cited in Avolio and Gardner, 2005).

H$_3$ : Authentic leadership is positively related with a follower's well-being at work.

In this study we also explore if authentizotic psychological climates and well-being at work mediate the positive relationship between authentic leadership and affective organizational commitment.

$H_4$: Authentizotic psychological climates and well-being at work mediate the positive relationship between authentic leadership and affective organizational commitment.

## 2.4. Authentic Leadership and Collective Efficacy

Bandura (1997) defined collective efficacy as "a group's shared belief in their conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments". Another definition of the concept is "a sense of collective competence shared among members when allocating, coordinating, and integrating their resources as a successful, concerted response to specific situational demands" (Zaccaro, Blair, Peterson & Zazanis, 1995). When coping with obstacles, people who have high collective efficacy are more likely to insist on finding solutions. Studies on collective efficacy have shown that it positively predicts group motivation and performance and acts as a buffer of stressor–strain relations. Thus, efficacy beliefs at both the individual level (self-efficacy) and group level (collective efficacy) are related to important individual and organizational outcomes (Chen and Bliese, 2002).

Sosik, Avolio & Kahai (1997), found empirical support for the importance of leadership behaviors as one of important antecedents of collective efficacy in laboratory studies. Walumbwa, Wang & Lawler (2003) investigated the direct and indirect effects transformational leadership has on followers' attitudes, such as organizational commitment and job satisfaction, mediated through collective efficacy. They found that collective efficacy mediated the relationship between transformational leadership and work-related attitudes, so transformational leadership is a possible mechanism through which collective efficacy may be enhanced, which in turn, enhances followers' commitment and satisfaction. Individuals, perceive high collective efficacy, are more likely to appreciate their membership, and to feel committed to their organizations.

An authentic leader enhances followers' social identification by creating a deeper sense of high moral values and expressing high levels of honesty and integrity in their dealings with followers (Avolio et al., 2004). Social identification is a process through which individuals identify with a group, take pride in belonging, and see group membership as an important part of their identity (Kark & Shamir, 2002). The perceptions of trustful behaviors of leaders also favor more cooperative

behavior among colleagues, which can further lead to pleasant affects (Herrbach and Mignonac, 2004). Alternatively, while authentic leadership comprises transformational leadership, authentic leadership can also be a possible mechanism through which collective efficacy may be enhanced, which in turn, enhances followers' commitment and satisfaction.

$H_5$: Authentic leadership is positively related with collective efficacy.

$H_6$: Collective efficacy mediates the positive relationship between authentic leadership and affective organizational commitment.

## 2.5. Authentic Leadership and Organizational Reputation

Hall (1992) suggests that a company's reputation consists of the knowledge and the emotions held by individuals. Fombrun and Van Riel (2003) characterize corporate reputation as a magnet that magnetizes the stakeholders and positive consequences. They suggested that corporate reputation brings in well-qualified employees, and supports employees' motivations and affective commitment. Fombrun, Shanley (1990) propose that institutional signals depicting firms as more or less visible, attractive and socially responsive are related to the assessment of a firm's reputation. "Managers presume that social responsiveness generates goodwill from employees, consumers and other publics that enhances the long-run profitability and viability of firms and protects their own employment. Managers can signal their firms' social concern by contributing to charitable causes, developing nonpolluting products, achieving equal opportunity employment, creating foundations, placing women and minority members on boards (Lydenberg, Marlin & Strub,1986; Ryan, Swanson & Buchholz, 1987)" (as cited in Fombrun and Shanley, 1990).

Lewis (2003) defined the six factors that comprise corporate reputation as leadership, social responsiveness, environmental responsiveness, product and service quality, financial performance and employee training. In light of previous studies, we can see that leadership and social responsiveness are two important factors of corporate reputation. Ethical leaders care about people and society in their decisions (Brown & Trevino, 2006); they display actions indicating they seek to do the right thing personally and professionally and have the

attributes of honesty, fairness, integrity, and openness. They are self-disciplined and consistent in their pursuit of clear ethical standards, which they refuse to compromise even in the face of uncertainty or pressure (Brown, Trevino & Harrison, 2005). Because authentic leadership involves ethical leadership, we suggest that authentic leaders will also exhibit similar characteristics. Moreover, we know that an authentic leader achieves equal opportunity employment so we propose that

$H_7$ : Authentic leadership is positively related with corporate reputation.

$H_8$ : Corporate reputation mediates the positive relationship between authentic leadership and affective organizational commitment.

## 3. Research

### 3.1. Sample and Procedure

Our sample was composed of 304 construction engineer employed full-time who were members of the "Chamber of Construction Engineers". All of the respondents were male and with respect to education, had at least a university degree. We collected data through face-to-face surveys. The 304 respondents were employed in 115 different construction firms and had 154 immediate supervisors.

### 3.2. Measures

**Authentic leadership** was measured using the 16 item Authentic Leadership Questionnaire, developed by Walumbwa et. al. (2008), with a 5-point response scale from 1 (Not at all) to 5 (Frequently, if not always). The scale has four dimensions including balanced processing (3 items), internalized moral perspective (4 items), relational transparency (5 items) and self-awareness (4 items). Sample items included "Solicits views that challenge his or her deeply held positions" (balanced processing), "Makes decisions based on his/her core beliefs" (internalized moral perspective), "Is willing to admit mistakes when they are made" (relational transparency) and "Seeks feedback to improve interactions with others" (self-awareness).

We obtained the ALQ's Turkish translation through Mind Garden (Users should request the instrument from Mind Garden, 1690 Woodside Road, Suite 202, Redwood City, CA 94061). Avolio, Gardner and Walumbwa addressed the following questions through ALQ:

Self Awareness: To what degree is the leader aware of his or her strengths, limitations, how others see him or her and how the leader impacts others?

Transparency: To what degree does the leader reinforce a level of openness with others that provides them with an opportunity to be forthcoming with their ideas, challenges and opinions?

Ethical/Moral: To what degree does the leader set a high standard for moral and ethical conduct?

Balanced Processing: To what degree does the leader solicit sufficient opinions and viewpoints prior to making important decisions?

Leadership has strong theoretical and empirical bases to be conceptualized at multiple levels of analysis (Yammarino, Dionne, Chun & Dansereau, 2005). So we defined authentic leadership at the group level of analysis in this study.

**Psychological authentizotic climate** was measured using an instrument comprising 21 items and measuring six authentizotic dimensions, developed by Rego and Cunha (2008), with a 5-point response scale from 1 (Strongly disagree) to 5 (Strongly agree). We used 10 items of the scale that measure three dimensions which we suppose are strictly related to authentic leadership theory, spirit of camaraderie (4 items), trust/credibility of the leader (3 items), and open and frank communication with the leader (3 items). Sample items are in turn, "A sense of family exists among the employees", "People trust in their leaders", "People feel free to communicate frankly and openly with the leaders".

**Well-being at work** was measured using a scale comprising 12 items and two dimensions which was developed by Warr (1990). The dimensions are anxiety-contentment and depression-enthusiasm, all consisting of six items. The adjectives in anxiety-contentment dimension are contented, calm, relaxed, tense, uneasy, and worried. Those in depression-enthusiasm dimension are enthusiastic, optimistic, cheerful, depressed, gloomy, and miserable. Items 4, 5, 6, 10, 11, and 12 are reverse coded. Sample items are "cheerful", "optimistic" and "worried". Respondents are asked to think about the frequency they feel those 12 sensations in their organizations and mark the response scale from 0 (never) to 4 (always).

**Affective organizational commitment** was measured using the scale developed by Allen and Meyer (1990) with a 5-point response scale from 1 (Strongly

| 1. factor<br>% of variance explained: 45,249 | 2. factor<br>% of variance explained: 8,386 | 3. factor<br>% of variance explained: 6,838 |
|---|---|---|
| self-awareness | relational transparency | internalized moral perspective |
| self-awareness | relational transparency | internalized moral perspective |
| self-awareness | relational transparency | internalized moral perspective |
| self-awareness | relational transparency | |
| balanced processing | internalized moral perspective | |
| balanced processing | | |
| balanced processing | | |
| relational transparency | | |

**Table 1:** The Composition of Items among Factors

| Variable | % of Total Variance Explained in the Items | Internal Consistency (coefficient α) |
|---|---|---|
| Authentizotic Psychological Climate | 74,640 | 0.935 |
| Well-being at Work | 68,702 | 0.846 |
| Affective Organizational Commitment | 75,164 | 0.944 |
| Group Collective Efficacy | 81,750 | 0.972 |
| Corporate Reputation | 63,530 | 0.935 |

**Table 2:** Results of Confirmatory Factor Analysis of Other Variables

disagree) to 5 (Strongly agree). The scale measures the three component (affective, continuance and normative) model of organizational commitment with 24 items. In this study we are interested in only the affective component of the model. Sample items are "This organization has a great deal of personal meaning for me" and "I would be very happy to spend the rest of my career with this organization".

**Collective efficacy** was measured with the scale developed by Italian researchers and used in different studies such as Petitta and Falcone (2007); Mastrorilli, Borgogni, and Petitta (2007); Russo, Dammacco, and Borgogni (2007). The scale comprises nine items measuring employees' thoughts about the group they are working in with a 5-point response scale from 1 (strongly disagree) to 5 (strongly agree). A sample item is "We always achieve coordination in order to get over the obstacles we face".

**Corporate reputation** was measured using a scale comprising 8 items developed by Fombrun and Shanley (1990) with a 5-point response scale from 1 (Strongly disagree) to 5 (Strongly agree). The items address the following attributes: quality of management; quality of products or services; long-term investment value; innovativeness; financial soundness; ability to attract, develop, and keep talented people; community and environmental responsibility; and use of corporate assets.

### 3.3. Analysis Technique

Because of the hierarchical nature of our data set we used hierarchical linear modeling (HLM7, Raudenbush & Bryk, 2002) in hypothesis testing. We used SPSS15 as an input file for creating the MDM file and for other analysis such as descriptive statistics, regressions among variables, confirmatory factor analysis and reliability analysis.

## 4. Results

### 4.1. Confirmatory Factor Analysis

We conducted a confirmatory factor analysis for each measure to see; (1) how many interrelated factors the construct comprises, and (2) how many dimensions are perceived by the Turkish respondents and whether they are similar with the dimensions perceived by the developers of the measure or by the other respondents the measure administered from other countries or cultures. In other words, we tried to display whether the construct exposes similar consequenses as described in literature with a different dataset from a different culture, Turkiye. We also investigated the reliability of measures because they are the translations of the original ones from English to Turkish. Although those translated

| Variable | Level of Analysis | ICC (1) | ICC (2) |
|---|---|---|---|
| Authentic leadership | Group | 0,66 | 0,955 |
| Collective efficacy | Group | 0,13 | 0,804 |
| Organizational reputation | Organization | 0,86 | 0,966 |

**Table 3:** Intraclass Correlations of Group/Organization Level Variables

| Variable | M | s.d. | Correlations | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | AL | AOC | WB | CE | CR | APC |
| AL | 2,59 | 0,705 | (0,916) | | | | | |
| AOC | 3,65 | 1,029 | ,505** | (0,944) | | | | |
| WB | 2,61 | 0,612 | ,481** | ,495** | (0,846) | | | |
| CE | 3,75 | 0,955 | ,413** | ,365** | ,396** | (0,972) | | |
| CR | 3,41 | 0,864 | ,444** | ,603** | ,454** | ,450** | (0,935) | |
| APC | 3,43 | 0,882 | ,499** | ,566** | ,488** | ,517** | ,765** | (0,935) |

N=304. AL= Authentic Leadership, AOC= Affective Organizational Commitment, WB= Well-being at Work, CE= Collective Efficacy, CR= Corporate Reputation, APC= Authentizotic Psychological Climate.

** Correlation is significant at the 0.01 level (2-tailed).

**Table 4**: Descriptive Statistics

measures have been used in previous studies we wanted to affirm their reliability. Hair, Anderson, Tatham & Black (2006) defined reliability as "an assessment of the degree of consistency between multiple measurements of a variable". The generally agreed upon lower limit for Cronbach's Alpha, which assess this consistency, is 0.70.

Authentic leadership; the results showed that three factors explained 60,473% of the total variance in the items, and demonstrated acceptable internal consistency (coefficient α=.916). In the literature the construct is described as comprising four factors, but the results of our study showed that Turkish construction engineers who participated in this study perceive authentic leadership as comprising three factors.

As should be understood from Table 1 above, self-awareness and balanced processing components of authentic leadership are perceived by our sample as the same. To see the correlation between self-awareness and balanced processing factors, we analysed the individual means of these factors in SPSS. The results of the anaysis revealed that there is a high correlation (0,763, p<0,01) between these two factors.

Interestingly, the "ethical/moral" dimension, the main characteristic of authentic leaders which started the discussions over transformational leadership and opened the doors for the concept of authentic leadership, was found to have the least explanatory power for the concept. Hence, it was found to be the least

distinguishable characteristic of authentic leaders for our sample. The confirmatory factor analysis results of the other variables are summarized below, in Table 2.

## 4.2. Aggregation Statistics

Measurement must be conducted at the appropriate level of analysis; or at a minimum, justification and tests for aggregation are necessary when concepts are measured at a lower level than their theoretical specification (Yammarino et al., 2008). For this reason we examined between-group differences and within-group agreement using two intraclass correlations (ICCs) to prove the viability of aggregating respondent ratings from an individual level of analysis into a group or organization level of analysis.

The three measures were found to be sufficiently supportive of aggregation. Supported by these findings we aggregated individual employee/follower perceptions of authentic leadership and collective efficacy to a group level variable, and finally organization reputation to a organization level variable.

## 4.3. Hypothesis Testing

For each hypothesis test we built a model in HLM. Before hypothesis testing of the results, Table 4 provides the descriptive statistics below

| | affective organizational commitment (Model 1) | authentizotic psychological climates (Model 2) | well being at work (Model 3) |
|---|---|---|---|
| Intercept | 3.665** | 3.486** | 2.618** |
| Authentic leadership | 0.650** | 0,634** | 0.404** |
| n (Level 1) | 304 | 304 | 304 |
| n (Level 2) | 154 | 154 | 154 |

**p < 0.001 (two-tailed)

**Table 5:** Hierarchical Linear Modeling Results

| | collective efficacy (Model 4) | corporate reputation (Model 5) |
|---|---|---|
| Constant | 2,330** | 2,016** |
| Authentic leadership | 0,548** | 0,536** |

**p < 0,001

**Table 6:** Regression Analysis Results

### 4.3.1. Tests of Hypotheses about Direct Effects

We edited the HLM results testing the direct effects of authentic leadership with affective organizational commitment, authentizotic psychological climates, well-being at work, collective efficacy, and corporate reputation as Table 5. The hypotheses are summarized as below;

$H_1$: Authentic leadership is positively related with affective organizational commitment.

$H_2$: Authentic leadership is positively related with authentizotic psychological climates.

$H_3$: Authentic leadership is positively related with followers' well-being at work.

$H_5$: Authentic leadership is positively related with collective efficacy.

$H_7$: Authentic leadership is positively related with corporate reputation.

The HLM results proved that authentic leadership significantly predicted affective organizational commitment ($\beta$=0.650, p<0.001; Model 1), authentizotic psychological climates ($\beta$=0.634, p<0.001; Model 2) and well-being at work ($\beta$=0.404, p<0.001; Model 3). Hence Hypotheses 1, 2 and 3 are supported by our data.

We had to test Hypotheses 5 and 7 in SPSS with regression analysis, because in HLM the output variable must be a level 1 variable but in our hypotheses the variables are all level 2 variables.

The SPSS results also revealed that authentic leadership significantly predicted collective efficacy (B=0.548, p<0.001; Model 4) and corporate reputation (B=0.536, p<0.001; Model 5). Hence we can say that Hypotheses 5 and 7 are supported by our data.

### 4.3.2. Tests of Hypotheses about Mediating Effects

In these hypotheses we explored the mediation effects of authentizotic psychological climates, well-being at work, collective efficacy, and corporate reputation in the direct positive relationships between authentic leadership and affective organizational commitment. To achieve this exploration we built a new model for each hypothesis in HLM and included the related variables with authentic leadership in the same regression model. The hypotheses to be tested are summarized below:

$H_4$: Authentizotic psychological climates and well-being at work mediate the positive relationship between authentic leadership and affective organizational commitment.

$H_6$: Collective efficacy mediates the positive relationship between authentic leadership and affective organizational commitment.

$H_8$: Corporate reputation mediates the positive relationship between authentic leadership and affective organizational commitment.

The HLM results of Model 6 revealed that authentizotic psychological climates ($\beta$=0.357, p<0.001) and well being at work ($\beta$=0.521, p<0.001) significantly

| Variables | Affective Organizational Commitment | | | |
|---|---|---|---|---|
| | Model 1 | Model 6 | Model 7 | Model 8 |
| Intercept | 3.665** | 3.647** | 3.667** | 3.710** |
| Authentic leadership | 0.650** | 0.208* | 0.574** | 0.453** |
| Authentizotic psychological climates | - | 0.357** | - | - |
| Well being at work | - | 0.521** | - | - |
| Collective efficacy | - | - | 0.182* | - |
| Corporate reputation | - | - | - | 0.661** |
| n (Level 1) | 304 | 304 | 304 | 304 |
| n (Level 2) | 154 | 154 | 154 | 154 |
| n (Level 3) | | | | 115 |

* $p < 0.05$ , **$p < 0.001$

**Table 7:** Hierarchical Linear Modeling Results of Hypotheses about Mediating Effects

predicted affective organizational commitment, as authentic leadership did ($\beta=0.2\,08$, $p<0.05$). However, the results when other variables are included in the same regression model showed a decrease in the significance level of authentic leadership from 0.001 to 0.05 and $\beta$ (explanatory power on affective organizational commitment) decreased from 0.650 to 0.208. Hence we can say that authentizotic psychological climates and well-being at work mediate (not fully, because the effect of authentic leadership is still significant) the positive relationship between authentic leadership and affective organizational commitment.

The HLM results of Model 7 and 8 were similar and revealed that collective efficacy ($\beta=0.182$, $p<0.05$) and corporate reputation ($\beta=0.661$, $p<0.001$) also significantly predicted affective organizational commitment. When these variables are included in the same regression analysis with authentic leadership, the $\beta$ coefficient of authentic leadership decreased from 0.650 to 0.574 and 0.650 to 0.453, respectively. Hence we can say that either collective efficacy or corporate reputation mediate (not fully because the effect of authentic leadership is still significant) the positive relationship between authentic leadership and affective organizational commitment. Consequently Hypotheses 4, 6 and 8 are also supported by our data.

## 5. Discussion and Implications

Yammarino et al. (2008) reviewed and coded 27 conceptual and empirical publications in the area of AL for these criteria: (1) the degree of appropriate inclusion of levels of analysis in theory and hypothesis formulation; (2) the extent to which levels of analysis are represented appropriately in the measurement of constructs and variables; (3) the degree to which levels of analysis are addressed in data analytic techniques; and (4) the extent to which theory and data are aligned from a levels-of-analysis perspective in the drawing of inferences. Inside 27 publications there were only 4 empirical studies. Out of these 4 studies, only 1 was multi-level, but the concepts and measures in the study were at different levels, there was no use of a multi-level technique and theory was at some level other than data level. According to the results of their study, Yammarino et al. (2008) asserted that although approximately 40% of the articles explicitly noted the importance of multi-level theory and hypothesis development, the importance of developing multi-level models was not reflected in AL literature. Scholars (Yammarino et al., 2005; Yammarino & Dansereau, 2008; Schriesheim, Castro, Zhou & Yammarino, 2001) also indicated that to advance leadership theory and research further and faster, consideration of levels of analysis issues in theory, measurement, data analysis, and inference drawing must be held explicitly. In this study, we investigated authentic leadership effects from a multi level perspective, so our study contributed to developing a multi-level theory of authentic leadership.

The conceptual and empirical links between authentic leadership and follower attitudes, behaviors, and performance outcomes have not been fully developed (Avolio et. al., 2004). Avolio and Gardner (2005) also noted that authentic leadership is a root construct that forms the basis for what then constitutes other forms of positive leadership such as transformational, charismatic, servant and spiritual leadership. In light of these assertions, we thought that the outcomes of such leadership forms must

also be obtained as the effects of authentic leadership. In this study, we chose the variables of each level congruent with the theory of authentic leadership and other forms of positive leadership. We proposed that an authentic leader will (1) deepen his/her employees' affective organizational commitment through supporting authentic psychological climates and well-being at work, (2) enhance collective efficacy perceptions of employees who are members of the same department or group and (3) heighten corporate reputation.

Authentic leaders build open and frank communication with their employees, behave similarly and fairly to each employee, perform opportunities for learning and personel development,  and demonstrate behaviors that are congruent with their beliefs and thoughts. As Mevlana Celaleddin Rumi (1207-1273)'s admonition "Either exist as you are, or be as you look", authentic leaders are those who achieve this. Through these characteristics, employees trust authentic leaders, they believe that their leader is honest and will fulfill his promises. Authentic leaders are likely to have a positive influence on followers' behaviors because such leaders provide support for followers' self-determination (Illies et al., 2005). They create the conditions that promote positive extra-role behaviors from followers through ethical role modeling, transparency in relationships and balanced decision-making (Avolio & Luthans, 2006). Consequently, a sense of family exists among the employees, and they care about the well-being of others. Their perceptions of collective efficacy heightens, and they become more stable when faced with obstacles. Employees feel happier and more motivated at work, such that they feel more committed to the organization. Because they feel themselves to be members of a family in their organizations, they perceive the problems of the organization as if the problems were their own, and so voluntarily become part of the solution.

An authentic leader will have high credibility and a high reputation because he or she is trustworthy and honest; cares about people and society in their decisions; displays actions indicating that he or she seeks to do the right thing personally and professionally and have the attributes of  fairness, integrity, and openness. They are authentic even in the face of uncertainty or pressure. Through role modeling they try to develop all of their employees and all of the organization. Because an organization's corporate reputation is closely related with the leader's reputation, we proposed and our results revealed that authentic leadership is positively related with corporate reputation.

The results of the study revealed that all of the hypotheses we proposed were supported by our data. The results were consistent with our theoretical predictions. The present study provides several implications for future research on the effects of authentic leadership and ways to improve the current understanding of the multi-level effects of an authentic leader. ▣.

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