The Effect of Organizational Structure on Leader Power in Educational and Security Organizations: A Comparative Study

Cem Harun Meydan 1, Kemal Köksal 2

Abstract
Organizational structure affects individuals’ perceptions in organizations. Different organizational structures, such as mechanistic and organic structures, lead to different organizational cultures and different cultures can have different effects on the perception of individuals including leader power; this study aims to identify the differentiation of leader power perception in organizations with mechanistic and organic structures. In this context, educational and military organizations were selected to identify and interpret the difference of leader power perception of individuals. Data was gathered from army and school settings, for the characteristics of these organizations are considered to be different. Analysis results partially supported the hypotheses. It was concluded that difference of structures caused different perceptions of leader power.

Keywords
Organizational Structure
Leader
Power
Perception
Educational Organizations

Introduction
Studies show that organizational structure has an effect on the perceptions and behavior of individuals including leadership (Brazier, 2005). The leader behavior and leader power perception of followers can vary according to the diversity of organizational structures (Atwater, 1995; Bai, Feng, Yue, & Feng, 2017; House, 1991; Moore, 2009).

Organizational structural diversity has been categorized according to various fields, from mechanistic to organic (Burns & Stalker, 1994). Educational organizations, for instance, can be considered organic organizations (Freeze & Hodges, 2009), while the army, on the other hand, typical of a mechanistic organization (Dickson, Resick, & Hanges, 2006; Gitman & McDaniel, 2008).

In every organizational structure, leader power represents the core of leader behavior (Yukl, 2002). Leadership in organizations has long been the subject of research, but there is still a significant gap regarding how leadership in an educational organization differs from other forms. The aim of this study is to identify the effect of organizational structure on the perception of leader power in educational settings by comparing two different structured organizations.

The structural diversity of an organization may result from the formalities, specializations, standardizations, hierarchy, complexity, centralization, professionalism, staff ratio, size of the organization, organizing technology, the environment, strategies and the objectives, and culture (Daft, 2004) as well as factors related to context, complexity and bureaucratic control (Child, 1973), and

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structural attributes of bureaucracy (division of labor, professionalization, hierarchy of authority and administrative staff of clerks) and their implications (Blau, Wolf, & Stauffer, 1966). Regardless of the form the organizational structure takes, in every organizational structure power is drawn from leader’s behavior (Yukl, 2002).

Power, which signifies asymmetric control over valued resources and has an important effect on leader behavior (Emerson, 1962; Fiske, 1993, 2010), is the ability or capacity to get things done as one wishes, while leader power refers to the ability and opportunity to influence (Salancik & Pfeffer, 1977; Lee, 1977). Leader power derives from five bases; namely coercive, reward, legitimate, expert and referent bases of power (French & Raven, 1959). These power bases can be grouped into personal and positional bases, and form an inter-correlated model (Yukl & Fable, 1991; Sturm & Antonakis, 2015).

Various studies have examined leader power in terms of its inter-correlations with power bases (Carson, Carson, & Roe, 1993; Gaski, 1986; Munduate & Dorado, 1998; Rahim & Psenicka, 1996, 2004; Rahim, Antonioni, & Psenicka, 2001) and examined the relationship of organizational structure in terms of leader power (Atwater, 1995). Previous research (Atwater, 1995) conducted on organizational structure and leader power included the power in the analysis with the correlations between variables, but this type of analysis is unsuitable due to significant inter-correlations among power bases (Rahim et al., 2001). In addition, in studies which have dealt with the inter-correlations among power bases, inconsistent results were observed (Carson et al., 1993; Gaski, 1986; Munduate & Dorado, 1998; Rahim & Psenicka, 1996, 2004; Rahim et al., 2001), which means there may be relational differences among power bases. It has been observed that one of the reasons for these relational differences is the difference of organizational structure. In this framework, the primary focus of this study is figuring out the perceptual difference of the leader power sources.

There are only a limited number of studies which deal with the power perception of leaders in educational organizations. Furthermore, the possible sources of relational differences in power models are yet to have been examined deeply and little research has been done to investigate the perception of power in structurally different organizations. Thus there is a need to test the theory of the exercise of power in mechanistic and organic systems (House, 1991) with a structural model analysis.

Despite much research on leadership in organizations, studies on how the leadership in educational organizations differs from other organizations has been lacking. This study, which compares two organizations of differing structures, aims to determine the effect of organizational structure on the perception of leader’s power in educational organizations and the factors which determine the motivation, behavior and performance of the individuals in the educational organization. In this context, the study is important in terms of contributing to the understanding of the perception of the power of individuals in educational organizations.

In order to understand the difference of perception among the power sources of the leader and how this is happening in terms of educational organizations, this study is an attempt to empirically test the inter-correlations among power bases in educational and military organizations and identify the differences of leader power perception on the basis of structural differences. Organizational structural diversity was included to the study considering the mechanistic and organic distinction (Burns & Stalker, 1994), while leader power is considered to be dimensioned in five bases (French & Raven, 1959).

This study aims to contribute firstly, by clarifying the effect of organizational characteristics on the perception of power bases by identifying how these inter-correlate with perceptions in educational and military organizations, secondly, by discussing the possible causes of perceptual differences and thirdly, by analyzing the theory of the exercise of power in mechanistic and organic systems with a structural model. The results of this study on power bases may assist education sector leaders in attaining a better understanding how their behavior impacts their followers and organizational outcomes.

The study will first address the theoretical framework, and then test hypotheses concerning differences in leader power perception in organizations with mechanistic and organic structures.
**Leader Power**

Leader power is an important area of focus in organization and management studies (Brass & Burkhardt, 1993). Power, organizational power, leader power and subordinate power have been studied extensively in management and organization research. The study of leadership itself has expanded far further than analyses of hierarchical power alone (Barnes, Humphreys, Oyler, Haden, & Novicevic, 2013). Leader power provides the core of leader behavior (Yukl, 2002) and provides an understanding of the usage of power tactics in gaining compliance and thus the relationship between supervisors and subordinates in organizational settings (Schwarzwald, Koslowsky, & Ochana-Levin, 2004).

Power is defined as the ability to get things done the way one wants them to be done (Salancik & Pfeffer, 1977; Yoon, 2013), while leader power is defined as the ability and opportunity to influence (Lee, 1977). Some researchers have examined the present aspect of this field in academic journals and have precariously argued basic concerns containing conceptualization and taxonomy (Fleming & Spicer, 2014; Sturm & Antonakis, 2015). In most power studies, either French and Raven’s (1959) five-base (coercive, reward, legitimate, referent and expert) model or Bass’s (1960) the two-dimension (position and personal) model are used as an efficient explaining tool. French and Raven’s (1959) five bases are composed of both positional and personal power (Rahim & Psenicka, 1996; Yukl, 2002). So they can be grouped in positional (i.e. coercive, reward and legitimate) and personal (i.e. expert and referent) power bases (Rahim, 1988; Yukl & Falbe, 1991; Rahim et al., 2001).

**Coercive power** is derived from the follower’s perception of the leaders’ authority to give punishments for followers’ faults (Lee, 1977). In this sense, the perception of the follower is as important as the power source which the leader possesses (Hollander, 2009). Leaders often derive power through coercion based on fear (Russell, 2001). The instruments of coercive power bases can range from use of physical power, to refusals, demotions, and humiliation (Kriesberg, 1991; Pruitt & Rubin, 1986).

**Reward power** is derived from followers’ perception of leaders’ ability to offer rewards in return for desired behavior (Rahim, 1986). The sources of reward that the leader possesses are seen to be the source of this base of power (Lunenburg, 2012). This source of power is also referred to as utilitarian power, and is based on control over material resources and rewards (Etzioni, 1980). Rewards may include promotions, salary increases, changes in the working conditions, increased responsibilities, praise and appreciation.

**Legitimate power**, which functions independent of the leader’s approach and personality traits, is derived from the organizational position which the leader assumes (Mossholder, Bennett, Kemery, & Wesolowski, 1998) and refers to the perception of followers towards the authority of the leader who has been assigned to a position (Daft, 2004). This base of power is related to legality (French & Raven, 1959). Individuals identify the power of the leader with the position and the person who has this position is accepted as having authority (Gibson, Ivancevich, Donnelly, & Konopaske, 2012).

**Expert power** is related to subordinates’ perceptions of a leader on the basis of their expertise or knowledge. For the follower, the leader has expertise and knowledge relevant to both the technical requirements of the sector, and in terms of managerial skills (Mullins, 1996). The leader who is perceived to have expert power can easily influence his/her followers (Luthans, 2011) because individuals are keen to follow the orders of a leader who has knowledge and expertise on their subject (Dyer, 1979).

**Referent power** is directly related to the leader’s personality (Hersey, Blanchard, & Johnson, 1996) and results in followers’ desire to follow and please (Yukl, 2002). Referent power is also considered as charismatic power (Yukl, 2002). The follower, who tries to identify themselves with the leader, develops emotional relationships and loyalty, following orders either out of love or admiration for the leader (Kaplan, 1964).

The identification of power sources and their instruments accounts for various differences between organizations (Yukl, 2002).
Structural models are formed of inter-correlations (casual relationships) between the bases of leader power (Kantek & Gezer, 2010; Rahim et al., 2001; Rahim & Psenicka, 1996) which may combine or gravitate from one to another (Davies et al., 2010; Liao, 2008a; Wrong, 1979). A fluctuation in the perception of one power base over another may affect the perceptions of other power bases (Greene & Podsakoff, 1981). Knowing these inter-correlations is important, since each power base has a direct or indirect effect on personal and organizational outcomes (Gaski, 1986). Some studies have shown that positional power bases (coercive, reward and legitimate) are perceived as weak predictors of job performance, given it is the personal power bases (expert and referent) which mediate the relationships between the perception of positional power bases and individual job performance (Rahim et al., 2001). Overall, positional power bases tend to influence personal power bases (Rahim & Psenicka, 1996), and thus, subsequently, positional power bases influence organizational outcomes through the mediation of personal power bases (Rahim et al., 2001).

The inter-correlations among power bases have been studied extensively by researchers. These studies provide support for the relationships among power bases. Legitimate power is positively associated with expert and referent power bases (Carson et al., 1993; Kantek & Gezer, 2010; Rahim & Psenicka, 2004) and has an indirect effect on individual’s behavior (Liao, 2008b). Reward power is positively associated with expert and referent power bases (Gaski, 1986). Coercive power is negatively associated with expert and referent power bases (Rahim et al., 2001), has a negative effect on individual’s behavior through mediation of expert and referent power bases (Munduate & Dorado, 1998; Rahim & Psenicka, 2004) and has an indirect effect on individual’s behavior (Liao, 2008b). Expert power is positively associated with referent power base (Aguinis, Nestler, Quigley, Lee & Tedeschi, 1996; Rahim & Psenicka, 2004; Munduate & Dorado, 1998; Gaski, 1986; Rahim, 1989). The inter-correlations and associations among power bases make positional power bases (coercive, reward and legitimate power bases) exogenous variables, and personal power bases (expert and referent) endogenous variables in the power model. The theoretical model of power is shown in Figure 1.

Figure 1. The Theoretical Model of Power (Rahim et al., 2001, p. 193)

**Structural Differences of Organizations and Leader Power**

The structure of the organization is formed by a self-designing socialization process in which routines and practices are developed and institutionalized (Weick, 1979). Self-designed practices and routines form institutional structures (Strang & Sine, 2002). However, as a result of their requirements, organizations vary in the means of their control systems, information conveyance and authorization (Burns & Stalker, 1994). Some organizations develop permanent routines, while some develop ad hoc approaches to problem solving, which affect managers’ and employees’ perceptions about the organization they work for (Burns & Stalker, 1994; Øgaard, Marnburg, & Larsen, 2007). As a result, the interactions among managers’ and employees’ may be affected. The interactions between personnel in an organization have an effect on organizational and institutional structure; therefore, the character of any two organizations may be distinct even using the same technologies (Barley, 1986).
One of the main distinctions is whether an organization has a mechanic or organic organizational character (Burns & Stalker, 1994). The continuum between the need for permanent routines and the need for ad hoc problem solving was devised by Burns and Stalker (1994) in the two modes of organic and mechanistic organizing. Differences in the reported experiences of a work environment as organic or mechanistic can probably be explained by how people recognize the influence of the formal or informal organization on task performance and social interactions.

In organizations which have distinct structures like mechanistic or organic types, group dynamics are important (Weick, 1979). Group dynamics create a tendency toward isomorphic behavior among individuals in an organization. A common language, perception and thought process, in other words an organizational culture, manifest themselves among people in an organization. Organizational culture has an effect on behavior and attitudes in individuals in terms of values and norms. In addition, organizational culture constructs the leadership in an organization since leadership is socially constructed (Fairhurst & Grant, 2010). So, in an organization, the perceived power of the leader is affected by values and norms both of which form organizational culture and are specific for that culture (Feather, 2002; Fincham, 1992). Another aspect of organizational culture is its effect on personal relationships (George & Jayan, 2012) and the impact of power may depend on the relationship between the leader and the follower (Tjosvold, 1995). Thus, the perception of leader power can be different on the organizational level since different organizations have different cultures.

The perception of the leader power is important since power becomes real when others perceive it to be so and respond accordingly (Hollander, 2009). What the leader actually does, or the power the leader actually possesses, has less influence upon follower behavior than the beliefs followers have about leader power and behavior (Atwater & Yammarino, 1996). In other words, a follower’s perception of leader power can be different from that of others and this differentiation may create a difference in the attitudes and behaviors of the followers. Leader power perception can have effect on organizational variables like organizational commitment and job satisfaction (Abdel Halim, 1978; Bar-Haim, 2002; Rahim 2009).

Structural sources in an organization like power-hierarchical authority, resource control and network centrality are important aspects for intra-organizational power (Astley & Sachdeva, 1984), and the mechanistic and organic distinction of organizations represents opposite positions on the issues of formalization and hierarchy of authority (Ammeter, Douglas, Gardener, Hochwarter, & Ferris, 2002; Burns & Stalker, 1961). Various antecedents of power have been identified by the comprehensive literature on power, regarding bureaucratic structures (Crozier, 1964; Weber 1968), resource contingencies (Salancik & Pfeffer, 1977), political agreement (Thompson, 1967) and social networks (Brass 2002).

The types of perception a leader enjoys varies due to organizational structural difference -such as mechanistic and organic structures (Atwater, 1995). In this context, power in an organization is highly connected to the structural features of that organization, since structure mediates the relationship between behavior and power (Ammeter et al, 2002; Brass & Burkhardt, 1993).

**Leader Power in Educational and Military Settings**

The organizations with which this study is concerned are educational and military organizations. In military organizations, a formal structure is highly important, and adherence to rank and rules are very strictly enforced. Meanwhile, in educational organizations professionalism and individualism dominate. The characteristics of these two distinct structured organizations, and their main differences in terms of power perception, can be summarized as follows.
Considering their aims and functions, school organizations are characterized as small, complex, challenging, changing, open ended (Southworth & Lofthouse, 1990), political and cultural organizations, in which everything is interrelated, and high value is placed on individuals (Celik, 2000). Teaching is characterized by unclear boundaries, complex input-process-output relationships and uncertain organizational technology; while the profession of teaching itself is traditionally seen as very a highly individualistic and a solitary profession (Gideon, 2002), and one of complexity (Barnett, 1994; Berg, 2007), in-class autonomy (Meydan, 2010), prerogativeness (Gideon, 2002) and professionalism (Berg, 1989). The structure of a school system assumes that different kinds of boundaries exist within a hierarchical organization (De Jong, 1996). Academic organizational hierarchies are based on asymmetrical relationships in which one has power over another (Johnson, 2005) and the leader’s positional power is suggested as the central element of a school system (Dowling & Osborne, 1985, p. 12). In school organizations, the rules are again important but there is low hierarchy, so the rules are considered to be more important than the leader. Teachers have legal responsibilities; however, they have the autonomy over everything they do during class, and this brings them both legal and moral responsibilities (Strike, 1990). They are trusted and empowered for their profession. Because empowerment is the relinquishing of traditional means of power (Pollard, 1996), leaders may have different methods of retaining power and control (Russel, 2001). Therefore, we expect a low perception of leader power, since teaching is an in-class activity, and teachers are entrusted and empowered through the expectation of high professionalism and high individualism.

Military organizations are characterized by strict rules and rigid structures, legally defined roles, responsibilities, and lines of communication, clear distinctions between rank, hierarchical control, public service, inflexible reward systems, strict reporting requirements, clear patterns, restrictions, high accountability, public accountability, bureaucratic oversight and intangible rewards (Kurland & Egan, 1999; Mastekaasa, 2009; Pratchett & Wingfield, 1996; Robertson & Seneviratne, 1995). Military organizations are unique organizations with features differentiate them substantially from the organizations within the environment they operate within, and have their own system of organization, leadership and hierarchy operating according to military rules, commands and provisions (Mandache, 2009). Military organizations are also made up of bureaucratic frameworks in which assignments tend to be evaluated according to the scope they provide for rational investigation and orderly procedure, with the hierarchical structure of military organizations establishing in explicit detail the stages and direction of the flow of information. In this type of organization, flow of information is highly important, almost everything needs to be reported to a leader, which makes the leader the best informed and, therefore, the best equipped to give orders (Feld, 1959). Additionally, in military organizations there are likely developments by means of impersonal rules, decision focusing, hierarchic category isolating, group pressure, interpersonal power relationship development and a high level of in-group cohesion (Rizescu & Stroea, 2009). High level in-group cohesion creates a strong organizational culture which binds individuals together.

The power of an organization emanates from contingent dependences created by unspecified combinations of coping with uncertainty, workflow centrality (immediacy and pervasiveness) and non-substitutability (Hinings, Hickson, Pennings, & Schneck, 1974). In military organizations, hierarchical structure and centralization of powers are key. Since followers are expected to risk even their lives by following orders, leaders have a power which must naturally be stronger than that of school organizations. In addition, it is considered that there is high power distance between the leader and the follower (Slevin & Covin, 1990). Orders are to be followed, and the rules and means of communication are very clear. The power relationship between the leader and the follower constitutes an important aspect of the follower’s social environment (Elangovan & Xie, 2000) and individuals evaluate
organizational events according to the culture they live in (Kwantes & Boglarsky, 2007). Therefore, in a high power distance and collectivist culture such as that predominant in Turkey (Hofstede, 1984), leaders’ orders may take on an importance which supersedes even written rules, with followers carrying out leader’s request simply by virtue of their being asked (Pasa, 2000).

In conclusion, organizational differences between educational and military structures are expected to create difference in the perception of leader power as drawing from their power bases. In the context of the above-stated theoretical framework, the following hypotheses have been developed.

H1: The perception of leader power bases differentiates significantly across the two distinctly structured organizations.

H2: The perception of leader power is significantly higher in military organizations than educational organizations.

H3: The influence of overall positional power bases (legitimate, coercive, reward) on overall personal power bases (expert, referent) is more predominant in military organizations than in educational ones.

As mentioned, the power bases of an organization function in an intertwined manner at any one time. These interrelationships, and the outcomes of the power bases, show marked differences between organizations, as perceptions of positional and personal power bases function at varying levels (Rahim, 2009). The ability of power to reward and punish differs in diversely structured organizations (Tjosvold, 1995), with positional power bases possessing higher importance in mechanistic structured organizations (Atwater, 1995). Target acceptance of legitimacy is needed for legitimate power (Kelman, 1974; Carson et al., 1993), and in mechanistic types organizations, the use of power based on position and punishment is received more acceptingly (Atwater, 1995). Communications, partner perceptions and inter-organizational exchange relationships are effective in the use of power bases (Gaski, 1986).

Additionally, the use of power may be legitimate when embodied in hierarchical organizational structures (Hardy, 1995). Some studies have revealed that coercive power is generally ineffective in influencing individual outcomes (Rahim, 1989; Podsakoff, Todor, & Skov, 1982), while other have indicated that coercive power negatively influences individual outcomes through the mediation of its effects on expert and referent power bases (Munduate & Dorado, 1998; Rahim & Psenicka, 1996). It can be concluded that there is an inconsistency among results. This inconsistency could be a result of the different characteristics of organizations from which samples have been collected. The samples of some studies have been taken from a random selection of company managers over a national area (Rahim, 1989), some from student interns (Aguinis et al., 1996), and others from education, insurance and consultancy service employees (Munduate & Dorado, 1998), marketing channels (Gaski, 1986), and business managers and their subordinates (Rahim & Psenicka, 1996), students of business administration (Rahim & Buntzman, 1989) and supervisors and administrators from nonprofit organizations (Podsakoff et al., 1982). In the context of the above discussion, the structural diversity of these samples is expected to account for the difference in the perception of leader power of individuals in terms of the inter-correlations and associations among power bases. As a result, the following hypothesis has been developed.

H4: The (structural) inter-correlations of perceptions of leader power bases in both organizations are distinct from one another.
Method

Procedures and Samples

To identify the perceptual differences of individuals working in these differently structured organizations, data was gathered from educational and military settings; and involved samples from teachers at a high school and officers from army units. Educational and army organizations were selected since these organizations are considered to be clearly different from each other as explained in above theoretical framework. In order to identify the perceptual differences in power bases, the data was analyzed via the confirmatory factor analysis, correlation, independent samples t-test and structural equation modeling (SEM) using SPSS and AMOS statistical analysis software.

Sample One

The participants of the first sample came from a high school in Ankara. The sample consists of 142 high school teachers. The ages of the teachers ranged from 25 to 55 with a mean of 34.51 (sd.=8.23) and their job tenure ranged from 1 year to 35 years with a mean of 11.05 (sd.=6.81). 92 (64.7%) participants were men and 50 (35.3%) were women and 117 (82.4%) had college education and 25 (17.6%) of them had masters’ degrees.

Sample Two

The participants of the second sample came from a military unit based in Ankara. The sample consists of 147 officers. The ages of the officers ranged from 22 to 45 with a mean of 33.79 (sd.=5.66) and their job tenure ranged from 6 years to 24 years with a mean of 13.89 (sd.=3.99). 6 (4.1%) participants were women and 141 (95.9%) were men and 85 (57.8%) had college education and 62 (42.2%) of them had masters’ degrees.

SEM was used to compare perceptual differences, to compare two models simultaneously based on factorial similarity using the same baseline, the procedure of Mullen (1995) was used and 147 officers randomly divided into mutually exclusive subsamples of 142 officers.

Instrument

To measure bases of power, the Turkish version of the Interpersonal Power Inventory (IPI) (Raven, Schwarzwald, & Koslowsky, 1998) which includes 33 items to measure 6 bases of power was employed. The validity study of the Turkish version of the inventory was made by Meydan (2010). Responses were on a 5-point Likert scale that ranged from strongly disagree (1) and strongly agree (5). For the first sample the reliability of the overall scale was 0.89 and power bases subscales ranged from 0.67 to 0.85 for the first sample. And for the second sample, the reliability of the overall scale was 0.86 with subscales ranging from 0.72 to 0.81.

The confirmatory factor analysis (CFA) confirmed the five factor structure of the power perception for both of the samples (Sample 1: $\chi^2=26.54$, p=.148, GFI=0.93, CFI=0.91, RMSEA=0.046; Sample 2: $\chi^2=21.74$, p=.132, GFI=0.91, CFI=0.91, RMSEA=0.053).

Inventory (IPI) measures 6 bases of power. In this study, relationships among bases of power have been examined within the model (Rahim et al., 2001; 193), and this model considers 5 bases of power. In this scope, the analysis was continued with the 5 factors (bases) of power (reward, coercive, legitimate, expert, referent / charismatic) which was confirmed with the CFA.
Results

The descriptive statistics and reliabilities for the study variables are shown in Table 1. For sample 1, it is seen that except for the expert power, which is slightly below mean value (3 point), the perception of power bases is above mean value. And for sample 2, it is seen that, as in the first sample, the perception of power bases is above mean value except for the expert power (Mean: 2.952), which is slightly below the mean value.

<table>
<thead>
<tr>
<th>Table 1. Means, Standard Deviations and Reliabilities for Variables</th>
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<tbody>
<tr>
<td>Sample 1</td>
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<td>M</td>
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<tr>
<td>2. Coercive</td>
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<tr>
<td>3. Legitimate</td>
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<tr>
<td>5. Referent</td>
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</table>

Inter-correlations for perceived leader power bases are shown in Table 2. For sample 1, significant inter-correlations among the variables can be observed, with the exception of coercive power. And for sample 2, inter-correlations among the variables are all significant.

<table>
<thead>
<tr>
<th>Table 2. Intercorrelations Among the Variables</th>
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<tbody>
<tr>
<td>Sample 1</td>
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<td>1</td>
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<tr>
<td>---</td>
</tr>
<tr>
<td>1. Reward</td>
</tr>
<tr>
<td>2. Coercive</td>
</tr>
<tr>
<td>3. Legitimate</td>
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<tr>
<td>4. Expert</td>
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<tr>
<td>5. Referent</td>
</tr>
</tbody>
</table>

*p < 0.01

A different analysis was tested in order to find whether the relationship between dimensions, which is the subject of a sample, is the same for the other sample. For this, we tried to determine whether there were any differences between the inter-correlations between two samples and we conducted a statistical significance test by Fisher’s transformation. The results showed significant differences in the inter-correlations of referent-reward (z=-2.446, p=0.007), referent-coercive (z=-2.420, p=0.008) and information-coercive (z=-2.297, p=0.011) power bases.

The differences between the leader power perceptions analyzed using the independent samples t-test. The result of the data analysis is shown on Table 3.

<table>
<thead>
<tr>
<th>Table 3. T-Test Results Showing Power Perception Differences</th>
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<tbody>
<tr>
<td>Mean Difference (Sample 1 – Sample 2)</td>
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<tr>
<td>Reward</td>
</tr>
<tr>
<td>Coercive</td>
</tr>
<tr>
<td>Legitimate</td>
</tr>
<tr>
<td>Expert</td>
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<tr>
<td>Referent</td>
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</tbody>
</table>

*p < 0.01
The results showed that there were significant differences in the perception of coercive (t=-4.505, p < 0.01) and legitimate (t=-5.009, p < 0.01) power bases. This meant that the perception of coercive and legitimate power bases was higher in military organizations, which partially supported both Hypothesis 1 and Hypothesis 2.

**Structural Model Analysis**

The theoretical model of power (Figure 1) was used to test the relationships among position and personal power bases for the two samples. The structural model was tested using AMOS (Arbuckle, 2006). The model was tested with the reliability of measurements with the error variances of the measurements estimated as one minus the reliability coefficient (Jöreskog & Sörbom, 1996; Munduate & Dorado, 1998). As conceptualized in the theoretical model, the three position power bases were correlated freely.

Firstly, we compared the two subsamples using a measurement invariance procedure. A common method for examining the levels of measurement invariance is provided by the multi-sample confirmatory factor analysis (MCFA) approach, which allows for the comparison of specific features of the factor model from one group to another (French & Holmes, 2006). We performed a multiple group analysis to compare the two subsamples using the model of power. Analysis results showed that the models for the two samples were significantly different from each other (Table 4) which supported Hypotheses 1, 2 and 4.

**Table 4. Multiple Group Analysis Results**

<table>
<thead>
<tr>
<th>χ²</th>
<th>p</th>
<th>df</th>
<th>NFI</th>
<th>IFI</th>
<th>RFI</th>
<th>TLI</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.15</td>
<td>.02</td>
<td>13</td>
<td>.026</td>
<td>.21</td>
<td>.043</td>
<td>.052</td>
</tr>
</tbody>
</table>

Then, to identify the detailed differences, we performed the analysis with the two samples separately. The structural equation models with significant relationships for sample 1 and sample 2 are shown in Figure 2 and Figure 3.

The analyses showed that there were slight differences in the path coefficients. The main difference in the samples resulted from coercive power. For Sample 1, coercive power had no effect on personal power bases (expert and referent), but, for the second sample, coercive power had significant effect on both expert and referent power bases.
The index values showed that the model fit the data for both sample 1 and sample 2 (Hu & Bentler, 1999). The index values are shown in Table 5.

**Table 5. Model Fit Indices**

<table>
<thead>
<tr>
<th></th>
<th>χ²</th>
<th>p</th>
<th>df</th>
<th>χ²/df</th>
<th>RMSEA</th>
<th>GFI</th>
<th>AGFI</th>
<th>IFI</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1</td>
<td>3.58</td>
<td>.31</td>
<td>3</td>
<td>1.19</td>
<td>.03</td>
<td>.99</td>
<td>.96</td>
<td>.99</td>
<td>.99</td>
</tr>
<tr>
<td>Sample 2</td>
<td>1.42</td>
<td>.23</td>
<td>1</td>
<td>1.42</td>
<td>.06</td>
<td>.99</td>
<td>.92</td>
<td>.98</td>
<td>.98</td>
</tr>
</tbody>
</table>

To identify the detailed relationships among the power bases direct and indirect relationships were also tested. The results are shown in Table 6.

**Table 6. The Direct and Indirect Effects on Referent Power**

<table>
<thead>
<tr>
<th></th>
<th>Sample 1</th>
<th></th>
<th>Sample 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct</td>
<td>Indirect</td>
<td>Total</td>
<td>Direct</td>
</tr>
<tr>
<td>Reward</td>
<td>.50</td>
<td>.18</td>
<td>.68</td>
<td>.56</td>
</tr>
<tr>
<td>Coercive</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-.27</td>
</tr>
<tr>
<td>Legitimate</td>
<td>-</td>
<td>.11</td>
<td>.11</td>
<td>-</td>
</tr>
<tr>
<td>Expert</td>
<td>.41</td>
<td>-</td>
<td>.41</td>
<td>.30</td>
</tr>
</tbody>
</table>

p<.001 for all values

Results showed that, for Sample 1, reward power and legitimate power had indirect effects on referent power; and for Sample 2, reward power, coercive power and legitimate power had indirect effects on referent power. For both samples, reward power had the greatest effect on referent power. However, it can be seen from the figures that there was no direct relationship between legitimate power and referent power, and that there was an indirect effect of legitimate power on referent power for both samples. Lastly, for the second sample, coercive power had a greater effect on referent power due to the indirect effect.

The results of the structural model analysis showed that there were differences in the perception of power in two different organizations, as the analysis revealed that differences such as coercive power base did not have an effect on positional power bases for the first sample while there were negative significant effects for the second sample; and the effect of positional power bases were seen higher in
security organizations. These findings also supported Hypothesis 1 and Hypothesis 4. The results also showed the influence of positional power bases on personal power bases was more in security organizations than in school organizations, which partially support Hypothesis 3.

Discussion and Conclusion

The purpose of this research was to test the differences of leader power perceptions in educational and military organizations which have different structures such as organic and mechanistic.

The difference in the perception of individuals in organizations was considered to result from the organizational structure. In order to attest to this, an educational and a military organization were selected, since both are recognizably distinct organizations. In military organizations, authority, strict rules and in-group cohesion are important, while professionalism, individualism and complexity are characteristics of school organizations. Such kinds of differences create varying organizational cultures as well. As a consequence of the different organizational structures, the leader power perception, an important determinant of organizational behavior of individuals (Ward, 1998) could be different.

To identify this difference in leader power perception, the data collected from two different organizations was tested with correlation analysis, independent samples t-test and structural equation modeling.

A correlation analysis showed nearly the same results for both samples, except in the case of coercive power base. In educational organizations, reward power which is a positional power source, has a significant and positive effect on the expert and referent power – both forms of personal power. Legitimate power from positional power sources only affects the expert power from personal power sources. Coercive power from positional power sources has no significant influence on personal power sources. There is also a significant positive relationship between expert power and referent power. Coercive power has no significant effect on personal power in educational organizations. It is considered that the organic structure of educational organizations accounts for this situation. It has been concluded that low hierarchy, high complexity, professionalism and individualism (Gideon, 2002; Barnett, 1994; Dowling & Osborne, 1985) make the effect of the coercive power on personal power sources in educational organization meaningless. In military organization, meanwhile, as shown in the second sample, reward power from positional power sources has a significant effect on expert and referent power, such as in the case of educational organizations. Legitimate power has a significant and positive effect on expert power. In military organizations, unlike educational organizations, coercive power has a significant and negative effect on expert and referent power bases. This result is considered a result of the hierarchical nature of military organizational structure. Rahim et al. (2001) have found similar results in a study examining the relationship between positional and personal power sources. While reward and legitimate power bases have significant and positive relationship between expert and referent power, coercive power has significant and negative relationship. This might be because in military organizations the perception of personal power was affected by all bases, but in educational organizations coercive base of power did not affect the perception of the leaders’ personal power.

According to the t-test results, legitimate and coercive power bases were perceived differently by officers and teachers. This showed that the real distinction of the perception of power bases was on the positional power of the leader and in the military organizations the positional power was perceived higher than the other power bases.

The results of the structural model analysis showed that there were differences in the perception and inter-correlations among power bases in two different organizations, as the analysis showed that coercive power base did not have an effect on positional power bases for the first sample while there were significant effects for the second sample; and the effect of positional power bases were seen higher in military organizations.
The structural equation model and correlation analysis showed that there was a difference in perception among power sources. According to the results, coercive power had no significant effect on personal power in the first sample but very much had an impact on the second. It was also observed that the positional power effect was higher in military organizations.

The structural equation model analysis results also showed that leader power was perceived as it expected in school organizations. In school organizations, coercive power was not associated with expert and referent power bases. This finding did not mean that coercive power was not perceived at all, however, but that it could be considered that coercive power would not have an effect on a leader’s personal power bases and organizational outcomes, such as conflict-handling styles (Rahim et al., 2001), commitment (Munduate & Dorado, 1998) or subordinate satisfaction (Koh & Low, 1997), related with these power bases. However, legitimate power had an indirect effect on referent power.

For military organizations, the structural equation model analysis showed that leader power was perceived differently from expected. The only difference from the original power perception model was that there was no significant relationship existed between legitimate power and referent power. However, legitimate power had a significant indirect effect on referent power.

The findings resulting from teacher samples were similar to the findings of other studies (Munduate & Dorado, 1998; Rahim & Psenicka, 2004), while the findings from officers, where coercive power was effective on both referent and expert power bases, were different from these same studies. The cause of this contradiction was considered to be the different structure of military organizations.

Another factor which can be added as a cause of this difference is the relatively higher rotation rate of security officers compared to teachers. The lower rotation rate among teachers makes better acquainted with the other teachers in the school and thus the positional power is not perceived as high as that seen in military organizations. In military organizations, the higher rotation rate makes the individuals less known to each other; thus leaders can use coercive power, which results the higher perception of this power base and makes this power base associated with personal power bases.

Considering the results as a whole, the study findings supported Hypothesis 1 and Hypothesis 4 regarding the differentiation of the perception of leader power across two organizations with different structures. The findings also partially supported Hypothesis 3 both because the effects of positional power perceptions were different and higher in security organizations, and because the perception of leader power seemed to be higher in two bases of power in military organizations than school organizations. The fourth hypothesis was also supported since the inter-correlations among power bases were significantly different for the two organizations.

Overall, results indicated that power was needed to be understood and interpreted in the context of the organization being studied, which is not sufficiently recognized or appreciated by researchers of organizational behavior (Johns, 2006).

This study also showed that relativity, which power involves (Sisaye, 2005), was different in organizations with different structures. Thus, in educational organizations, reward and legitimate power bases were important determinants of leader’s personal power, while in military organizations reward, coercive and legitimate power bases were all perceived as effective on personal power bases. Furthermore, expert power bases mediated the relationship among positional power bases and referent power in both samples. In other words, the leader was perceived to have an expertise for only being in a position, or was perceived to have known whom to give rewards or punishments.

This study may have managerial implications as well. Leadership behavior, among other factors, no doubt influences employees’ attitudes to work and affects organization’s success (Afolabi, Adesina, & Aigbedion, 2009). However, on the other hand, the process of being perceived as a leader is also fundamental for organizational success (Oelofse, 2007). In high power distance cultures a powerful leader may be desirable for the individuals. Thus, the individuals’ personality can be compatible with demands dictated by the structural characteristics of the organization, which is affected by national
culture (Shahin & Wright, 2004). As a result, the organizational climate, as perceived by the individual, can be considered desirable (George & Bishop, 1971), which can increase organizational performance. In this context, for organizations to be successful, an individuals' high perception of leader power may yield better results in high power distance cultures. Yukl and Falbe (1991) have emphasized that efficient leaders depend more on personal power than position power. Leaders of military organizations can increase the effect of expert and referent power by using the legitimate and reward power. However, using coercive power can decrease the effect of personal power. When evaluated in this respect; because the use of coercive power has a negative effect on the perception of personal power in hierarchical organizations, it is considered appropriate for leaders to use less coercive power. In educational organizations, reward and legitimate power bases were important determinants of leader's personal power, and coercive power could not affect the perception of the leaders' personal power. Thus, leaders may use more reward and legitimate power than coercive power.

This study has several limitations as well. The sample consisted of a limited number of teachers and officers. The samples consist of limited responses. Furthermore, using cross sectional data, probable common method variance which could be the result of the individuals' self-evaluations and disregarding the social desirability effect should be considered as other limitations.

Although leader power has long been the subject of investigation in organizational behavior research, it seems that there are still wide gaps in the study. In the context of current research, the perceived power during the leadership period in an organization seems to provide a new area of research. A long term study can identify the perception of a leader's power at the beginning of the leadership period and perception in different times during this period. Thus the probable differences of leader’s power perception with the same leader and the same followers can be investigated.

To examine the difference between the power perceptions of the leader, two organizations with distinctly different structures were selected and the sample was taken from these organizations. It has been observed that the difference in perception of power sources may result from organizational structure. While school organization is an example of organic organization structure, it has been seen that the character and management style of school leaders may have effect on the culture and changing processes in school and thus the employees’ perception of power (Devos, Hulpia, Tuytens, & Sinnaeve, 2013). Leaders also have an impact on employees' motivation and performance (Atwater & Yammarino, 1992). In addition, compatibility of leader’s self-evaluations and employee evaluations effected the personal and organizational performance (Ham, Duyar, & Gumus, 2015). Perceptions the employee holds regarding a leader may change their behavior (Mosterman & Hendriks, 2011). From this perspective, it can be seen that the perception of power among employees can be caused as a result not only of organizational structure, but also by organizational culture, which is shaped directly by the leader himself or indirectly by the leader's personality. For this reason, to reveal the variability of power perception, it may be beneficial to make a research with using the perceptions between the leader and the followers. In this way, it can be concluded that the variability in perception of power can be understood and explained more clearly by revealing the differences arising from the organization, the leader and the worker.
References


