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Revisiting of Theory X and Y: A multilevel analysis of the effects of leaders' managerial assumptions on followers' attitudes

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Revisiting of Theory X and Y

A multilevel analysis of the effects of leaders' managerial assumptions on followers' attitudes

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Abstract

Purpose – The purpose of this paper is to investigate the influence of leaders' Theory X and Y managerial assumptions on subordinates' attitudes and behaviors.

Design/methodology/approach – Military leaders ($n = 50$) completed a questionnaire with Theory X and Y scale and their subordinates ($n = 150$) completed a questionnaire with the scales of satisfaction with leader, affective commitment, and organizational citizenship behavior. The paper used hierarchical linear modeling to test the hypotheses.

Findings – The results indicated that the Theory Y management style is significantly and positively associated with subordinates' satisfaction with the leader, affective commitment, and organizational citizenship behaviors. The Theory X management style had a significantly negative impact on subordinates' satisfaction with the leader, but no significant impact on affective commitment and organizational citizenship behavior. The findings of the present study suggest that the Theory X and Y managerial assumptions are a worthwhile basis from which to examine several important organizational and individual outcomes.

Research limitations/implications – The sample consisted of military personnel and were predominantly male. This may limit the generalizability of the findings.

Practical implications – The findings of the present study suggest that the Theory X and Y managerial assumptions are a worthwhile basis from which to examine several important organizational and individual outcomes.

Originality/value – Although McGregor's (1960) Theory X and Y have contributed to management and leadership thinking and practice for many years; empirical studies examining the Theory X and Y managerial assumptions in a work environment are very scarce. By examining the effect of leader's Theory X and Y managerial assumptions on follower's attitudes and behaviors, the study provides important insights for leadership literature.

Keywords Affective commitment, Organizational citizenship behaviour, Satisfaction with leader, Social exchange theory, Theory X and Y management styles, Military personnel

Paper type Research paper

Introduction

In his landmark book, *The Human Side Enterprise*, Douglas McGregor (1960) popularized the idea that managerial assumptions and beliefs are important in determining managers' style of operating and work-related behaviors. McGregor assumed that all managers



make certain assumptions about human motivation even though they might not be aware of it. These managerial assumptions can be divided into two types: the somewhat pessimistic view of Theory X, and the more positive view of Theory Y. Managers with a Theory X orientation assume that subordinates basically dislike work, find work to be aversive, need direction, must be forced to work, and avoid taking responsibility. On the other hand, managers with a Theory Y orientation assume that typical employees like work, are creative, exhibit self-direction on the job, and accept responsibility.

Although McGregor (1960) proposed Theory X and Y over 50 years ago, empirical research examining McGregor's work in work environments is very scarce. The lack of published, valid and reliable measures is one of the reasons why empirical research on McGregor's work has been limited (Kopelman *et al.*, 2008). Furthermore, some scholars have criticized McGregor's work for being simple and undeveloped (e.g. Bobic and Davis, 2003; Morse and Lorsch, 1970; Reddin, 1969), and not taking the impact and role of environmental factors into consideration (Thomas and Bennis, 1972). Despite these criticisms, McGregor's Theory X and Y have contributed to management and leadership thinking and practice for many years (Heil *et al.*, 2000). For example, McGregor's (1960) book, *The Human Side Enterprise*, was voted fourth most influential management book of the twentieth century in a poll of the Fellows of the Academy of Management (Bedeian and Wren, 2001). Miner (2003) reported that McGregor's Theory X and Y was ranked second in terms of recognition and in 33rd place in importance out of 73 organizational behavior theories, which indicates that McGregor's Theory X and Y continues to hold a significant position in the eyes of scholars.

More recent studies have indicated the importance of managers' Theory X and Y assumptions in a work setting (Larsson *et al.*, 2007; Russ, 2011; Sager, 2008; Şahin, 2012). However, there is less research on the effect of managers' Theory X and Y assumptions on employees' attitudes and behaviors. This is an important gap because McGregor (1960, 1966) argued that human resource development is affected by workplace climate resulting from managers' assumptions about human motivation. Furthermore, there is a call for more research on managerial assumptions (Schein, 2011). To date, research on the effects of managers' Theory X and Y assumptions on employees' attitudes and behaviors is limited in that it has primarily focussed on the experience of private sector workers, with the effects on military personnel remaining largely unknown. It is the aim of this paper to begin to address this gap by evaluating such effects, with specific regards to satisfaction with leader, affective commitment, and organizational citizenship behavior. Our study was conducted in military context. Military organizations are task-centered organizations and standardization, specialization, and formalization of skills and behaviors are of great importance. Adherence to rules and hierarchy is important in the military context. Military personnel are motivated to do what is formally required by their job descriptions and have few social ties to their leader in a strictly task-centered relationship characterized by low exchange and top-down influence. There seems to be very limited space for social exchange relations in military organizations. Therefore, one might argue that military leaders have more Theory X orientation. Although, the relationship between military personnel and his or her immediate supervisor usually entails the characteristics of a task-focussed relationship, researchers showed that people-focussed relationship that coincides with the Theory Y orientation also exist between military personnel and his or her immediate supervisor (e.g. Bass, 1990; Dvir *et al.*, 2002; Kane and Tremble, 2000; Roush and Atwater, 1992).

Social exchange theory (SET) (Blau, 1964) will be used to explain the links between leaders' Theory X and Y managerial assumptions and followers' attitudes and behaviors.

In summary, we aim to examine the effects of leaders' Theory X and Y assumptions on followers' attitudes and behaviors, such as satisfaction with the leader, affective commitment, and organizational citizenship behavior. We argue that a study testing McGregor's Theory X and Y with field data would be an important contribution to the literature.

Conceptual background and hypotheses

SET

SET is one the most influential conceptual paradigms in social studies (Cropanzano and Mitchell, 2005). SET has been derived from the works of Homans (1958), Thibaut and Kelley (1959), Gouldner (1960), Blau (1964), and Emerson (1972). As a result, contributions to understanding SET have come from the disciplines of psychology, sociology, and economics. In addition, the studies conducted in organizational settings have made contributions to understanding the nature of the SET (Cropanzano and Mitchell, 2005). Although theorists viewed social exchange differently, they agree that social exchange involves a series of interactions that generate obligations (Emerson, 1976). SET is a general theory concerned with understanding the exchange of material or non-material resources between actors in an interaction situation (Cropanzano and Mitchell, 2005).

SET focusses on exchange relationships between two or more actors. Most theoretical frameworks of exchange possess the following common assumptions (Turner and Beeghley, 1981): first, all actors possess resources that they will expend in order to receive valued resources from other actors; second, all actors make calculations as to the reward value or utility of resources that other actors have to offer and as to the costs that they must incur in the loss of their resources and the loss of alternative resources from other actors; third, all actors make calculations in order to receive from other actors resources that exceed in value and or utility those resources that must be expended; fourth, social relations involve a constant process of exchange of resources among actors and social reactions are to be explained by reference to the degree of balance or imbalance in such exchanges of resources among actors. Turner and Beeghley (1981) stated that "these assumptions have been translated into a wide variety of abstract principles" (p. 549). Therefore, the principles of SET are broad and encompassing.

Organizations are forums for transactions; for example, an employee exchanges work for pay. Exchange occurs within a mutually dependent environment, whereby actors control resources that the other actors value (Blau, 1964; Cropanzano and Mitchell, 2005). The interpersonal connection in a workplace can be viewed as social exchange relationship. Social exchanges are voluntary actions which may evolve when supervisors take care of employees, which thereby engenders beneficial consequences. According to Blau (1964), "only social exchange tends to engender feelings of personal obligations, gratitude, and trust; purely economic exchange as such does not" (p. 94). Economic exchanges are characterized by contractual arrangements enforceable through legal sanctions. Social exchanges produce effective work behavior and employee attitudes. Therefore, within contemporary management research, social exchange relationship has received much attention.

Cropanzano and Mitchell (2005) reviewed literature and showed the specific models of social exchange relationship employed by researchers in work settings. For example,

one of these models is perceived organizational support which has often conceptualized as the quality of the social exchange that takes place between an employee and the employer as a whole (e.g. Eisenberger *et al.*, 1986). Perceived organizational support has been found to be associated with organizational citizenship behavior, job performance, and reduced absenteeism (Rhoades and Eisenberger, 2002). The other model, leader-member exchange, has been viewed as the exchange relationship between an employee and the supervisor (e.g. Settoon *et al.*, 1996; Wayne *et al.*, 1997). Empirical research has demonstrated that leader-member exchange has been linked to desired outcomes such as task performance, satisfaction, turnover, and organizational commitment (Gerstner and Day, 1997). Social exchange relationships are thought to be initiated by employers when they value employee's contributions and take care of employees, which thereby engender beneficial consequences. On this basis, if employees perceive that their employers value and deal equitably with them, they will feel an obligation to reciprocate the favorable treatment with positive work attitudes and behaviors. When employees and the employer trade benefits in a two-way process, exchange relationship will be established (Blau, 1964). Generally, employees return the benefits they receive from employer with whom they have a social exchange relationship. There is strong empirical evidence for this general contention (Cropanzano and Mitchell, 2005).

In the present study, SET is used to explain the links between leaders' managerial assumptions and followers' attitudes and behaviors, such as satisfaction with the leader, affective commitment, and organizational citizenship behavior. Leaders help to create an environment that influences the attitudes and behaviors of their followers at work (Yukl, 2009). We chose specific attitudes and behaviors as dependent variables in part to analyze social exchange relationships. The first dependent variable is satisfaction which is regarded as an indication of the social exchange relationships in a work setting (e.g. Gerstner and Day, 1997; Masterson *et al.*, 2000). As elaborated above, social exchange relationships brings satisfaction if an individual receive fair returns for their expenditures (Cropanzano and Mitchell, 2005). In the present study, leader and his or her follower are interacting partners in social exchange relationship. Leaders who are perceived as supportive and participative influence job satisfaction of employees in a positive way. On the other hand, poor leadership practices including directive or autocratic styles have been found to be associated with job dissatisfaction (e.g. Judge and Piccolo, 2004; Podsakoff *et al.*, 1996). Considerable research has demonstrated positive correlations between social exchange (e.g. LMX) and job satisfaction (Volmer *et al.*, 2011). Social exchange relationships are assumed to be responsible for a substantial portion of job satisfaction. In social exchange relationship, satisfied followers generally return the benefits they receive from the leader. Specifically, in the present study, satisfaction with leader – a component of job satisfaction – was chosen as a dependent variable since it is more proximal to the leader than overall job satisfaction (Spector, 1985).

The second dependent variable in the present study is affective commitment. It is one of the most studied component of Meyer and Allen's (1991) three-component model of commitment and refers to the individual's positive emotional attachment to the organization. Individuals with strong affective commitment remain with the organization because they want to do so (Allen and Meyer, 1996, p. 253). The meta-analysis by Meyer *et al.* (2002) indicates that positive work-related experiences influences affective commitment to an organization. In particular, affective commitment develops primarily from higher levels of job scope (e.g. autonomy), leader-member exchange relationship, perceived organizational support and justice (e.g. Gerstner and Day, 1997; Schyns *et al.*, 2005; Wasti, 2008; Wayne *et al.*, 2009). The findings from previous studies

indicate that individuals who engage in high social exchange relationship (e.g. LMX and/or POS) are likely to shape their work experiences and attitudes and return the benefits they receive by emotionally attaching to the organization.

Organizational citizenship behavior is used as the third dependent variable in the present study. Organizational citizenship behavior refers to “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate promotes the effective functioning of the organization” (Organ, 1988, p. 4). Three core aspects that are central to this construct exist. First, organizational citizenship is discretionary behaviors which cannot be found in job descriptions. Second, organizational citizenship go above and beyond requirements defined in the job description. Finally, organizational citizenship includes positive behaviors that contribute to overall organizational effectiveness. Most researchers have explained organizational citizenship in the context of social exchange relationship (Elstad *et al.*, 2011). In the workplace, every acts of an individual are not strictly regulated by contractual obligations; instead, there usually exist implicit and discretionary exchange of resources (Blau, 1964). According to this point of view, individuals who engage in high social exchange relationship (e.g. LMX and/or POS) are likely to return the benefits they gain by performing organizational citizenship behaviors (e.g. Gerstner and Day, 1997; Lynch *et al.*, 1999; Moorman *et al.*, 1998; Organ *et al.*, 2006; Rhoades and Eisenberger, 2002).

McGregor's Theory X and Y

McGregor (1960, 1966) postulated that managers have two very different assumptions about their subordinates: Theory X and Y. Managers epitomized by Theory X have adopted an idea that subordinates are prone to dislike work, avoid responsibility, are risk averse, and not self-motivated. Therefore, managers must closely supervise and coerce employees into working efficiently. Managers with Theory X are inclined to display more autocratic leadership styles using conventional managerial controls, such as threats and punishment (McGregor, 1960, 1966; McGregor and Cutcher-Gershenfeld, 2006). In contrast, Theory Y assumes that subordinates do not inherently dislike work, are self-directed, are willing to work, desire responsibility and autonomy, and are committed to achieve their maximum outputs. Managers with Theory Y assumptions maintain optimistic views of employees and display more participative leadership styles with appropriate management practices, such as internal motivation, proving the opportunity to participate in decision making, and rewards (McGregor, 1960, 1966; McGregor and Cutcher-Gershenfeld, 2006).

To date, despite its influence and potential practical value, relatively little research has been conducted that examined McGregor's Theory X and Y in a work environment (Kopelman *et al.*, 2012). For example, Larsson *et al.* (2007) found that managers with the Theory X mindset had lower scores for subordinate perceptions of their leadership behavior and aspects of quality. In contrast, managers with the Theory Y mindset tended to have subordinates with better health outcomes. Sager (2008) examined the relationship between the Theory X and Y managerial assumptions and superior communication style which may have effects on subordinate well-being and organizational viability. He showed that the Theory X assumptions were positively related to the dominant and impression leaving styles. More importantly, the Theory Y assumptions were negatively related to the anxious style and positively related to the supportive, impression leaving, and non-verbally expressive styles. In a recent study, Russ (2011) demonstrated the effect of managers' Theory X and Y assumptions on participative decision making.

Specifically, he reported that participative decision-making is perceived by the Theory X managers as having a negative impact on their power. On the other hand, the Theory Y managers perceive a positive consequence of participative decision making on their power and organizational effectiveness. Şahin (2012) reported that the Theory Y managerial assumptions were positively related to subordinates' affective commitment and the quality of exchange relationships between leaders and them. In addition, the quality of exchange relationships was found to mediate partially the relationship between the Theory Y managerial assumptions and affective commitment.

The effect of Theory X and Y on followers' attitudes and behaviors

Based on SET (Blau, 1964; Gouldner, 1960), we propose theoretically based predictions for relationships between the Theory X and Y managerial assumptions of leaders and followers attitudes and behaviors. According to this theory, individuals in social situations choose behaviors that maximize their likelihood of meeting self-interests in those situations. Social exchange tends to engender feelings of personal obligation, gratitude, and trust. Individuals develop relationships based on the implicit expectation of reciprocally beneficial exchanges based on trust and felt obligation (e.g. Blau, 1964; Gouldner, 1960).

In thinking about the Theory Y managerial assumptions and followers' attitudes and behaviors, we posit that leaders' Theory Y managerial assumptions are positively related to followers' satisfaction with the leader, affective commitment, and organizational citizenship behavior. When a manager applies Theory Y principles, employees receive autonomy and responsibility for work, more opportunities to identify problems and find creative solutions to them (McGregor, 1960, 1966; McGregor and Cutcher-Gershenfeld, 2006). This entails a close relationship and mutual trust, and employees feel an obligation to reciprocate, for example, by developing feelings of affective commitment and, thus, performing more than what is formally required by their job descriptions. When employees and the manager trade benefits in a two-way process, an exchange relationship will be established (Blau, 1964; Gouldner, 1960). When the quality of social exchange relations is high, employees are more likely to engage in organizational citizenship behavior (e.g. Gerstner and Day, 1997; Lynch *et al.*, 1999; Moorman *et al.*, 1998; Rhoades and Eisenberger, 2002) and are more satisfied (e.g. Gerstner and Day, 1997; Masterson *et al.*, 2000). Research has showed that a democratic (people focussed) leadership behavior which stems from Theory Y managerial assumptions (McGregor, 1960, 1967), can enhance followers' satisfaction with leader (Bass, 1990; Bartolo and Furlonger, 2000; Gillman, 1993; Riggio and Cole, 1992), affective commitment to the organization (Meyer and Allen, 1991, 1997; Şahin, 2012), and organizational citizenship behaviors (Bass, 1990; Gurbuz, 2009; Organ, 1988; Podsakoff *et al.*, 2000). In sum, we predicted that:

- H1.* Theory Y managerial assumptions are positively related to followers' satisfaction with leader (*H1a*), affective commitment (*H1b*), and organizational citizenship behaviors (*H1c*).

In thinking about the Theory X managerial assumptions and followers' attitudes and behaviors, we posit that leaders' Theory X managerial assumptions are negatively related to followers' satisfaction with leader, affective commitment, and organizational citizenship behavior. Theory X managers emphasize the close supervision of employees and the chain of command, motivating employees using extrinsic rewards

(McGregor, 1960, 1966; McGregor and Cutcher-Gershenfeld, 2006). Employees might perceive there to be a social-emotional distance between their leader and themselves with a strictly task-centered relationship characterized by low exchange and top-down influence which determines their actions and behaviors in accordance with the prescriptions and proscriptions of the employment contract. The formal and impersonal relationships between Theory X managers and employees do not engender an obligation on the part of employees to reciprocate the favorable treatment (e.g. Blau, 1964; Gouldner, 1960). On the contrary, an autocratic (work focussed) leadership behavior which stems from the Theory X managerial assumptions (McGregor, 1960, 1967) can cause dissatisfaction with the leader (Bass, 1990; Bartolo and Furlonger, 2000; Riggio and Cole, 1992), lower affective commitment to the organization (Meyer and Allen, 1991, 1997; Şahin, 2012), and less organizational citizenship behaviors (Bass, 1990; Gurbuz, 2009; Organ, 1988; Podsakoff *et al.*, 2000). In sum, we predicted that:

- H2. Theory X managerial assumptions are negatively related to followers' satisfaction with leader (*H2a*), affective commitment (*H2b*), and organizational citizenship behaviors (*H2c*).

Method

Sample and procedure

To test our hypotheses, we collected multilevel and multisource data from active military personnel working at different military units located in Ankara, Turkey. Within a military unit, subordinates collaborated and worked together to achieve the same goal. Unit leaders were in charge of monitoring and evaluating the work of subordinates. We collected data in two surveys administered at subordinates and their leaders during May-June 2012. We distributed the questionnaires to 124 military leaders and all the 448 subordinates with the help of second author of the present study. The questionnaires were hand delivered to the participants in an addressed envelope and a brief explanation about the general purpose of the study was given by the researchers. Participation in the study was voluntary and all responses were anonymous. On the questionnaires directed at leaders, we asked them to indicate managerial assumptions beliefs about human motivation. Data on satisfaction with leader, affective commitment, and organizational citizenship behavior were obtained by the questionnaires directed at subordinates. We received 50 usable responses from military leaders (response rate 40 percent) and 150 usable responses from subordinates (response rate 33 percent). The questionnaires of each subordinates and his or her leader were matched using identity numbers.

We obtained information on the characteristics of non-respondents to check for potential response bias. Comparisons of the respondents to those who did not complete the survey showed that these two samples were highly similar with respect to rank, age, education level, years in military service. This suggests that the respondents were similar to non-respondents on several socio-demographic variables and that non-response bias may not be a problem.

In sum, our sample was composed of 50 military leaders and 150 subordinates. No significant difference was found between our sample and target sample in terms of demographics. The subordinates were 61.5 percent non-commissioned officers and 38.5 percent officers. Of the 150 subordinates, 67.7 percent have a bachelor's degree and above (e.g. master's degree), while 32.3 percent have an associate degree or below. The age of subordinates ranged from 23 to 44 years ($M = 30.59$, $SD = 4.41$). On average,

they had been in military for 8.26 ($SD = 4.92$) years and had worked with their leader for 9.68 ($SD = 7.35$) years. The military leaders were officers (from second lieutenant to colonel) and most of them (98 percent) were male. With respect to education level of the leaders; all have a bachelor's degree and above (e.g. master's degree). The age of leaders ranged from 26 to 55 years ($M = 38.24$, $SD = 6.72$). The military leaders reported an average length of tenure within their organizations of 16.22 years ($SD = 6.71$). On average, each military leader supervised three subordinates in our sample.

Measures

McGregor's Theory X and Y. We measured military leaders' managerial assumptions using eight items from the Theory X and Y attitudes scale adapted from the questionnaire developed by Kopelman *et al.* (2008, 2012). In all, four items measured the attitudes and assumptions of Theory Y and four items measured the attitudes and assumptions of Theory X (see Appendix for listing of items). Military leaders rated items on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Previous research has suggested that the eight-item scale has good psychometric properties and can be used as a two-factor measure (Şahin, 2012). To confirm the scale's factor structure, a confirmatory factor analysis (CFA) was applied. All the items significantly loaded on relevant factor ($p < 0.001$), and fit indexes provided evidence of acceptable fit: $\chi^2 (n = 50) = 57.48$ with 19 df, (Bentler's) comparative fit index (CFI) = 0.91, goodness-of-fit (GFI) = 0.97, non-normed fit index (NNFI) = 0.95, and root mean square error of approximation (RMSEA) = 0.064 (Browne and Cudeck, 1993; Hoyle, 1995). Additionally, CFA indicated that the two-factor model provided better fit compared to the one-factor model ($\chi^2 (n = 50) = 105.48$ with 20 df, $p < 0.001$, CFI = 0.67, GFI = 0.81, NNFI = 0.47, and RMSEA = 0.12). The reliabilities of the scales were 0.72 for the Theory Y and 0.74 for the Theory X.

Satisfaction with leader. This scale was adapted from Spector (1985) and consisted of four items that asked subordinates for their satisfaction with leader (see Appendix for listing of items). Subordinates rated items on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores were indicative of higher level of satisfaction with leader. The scale has been used widely, and previous research has provided validation evidence for this scale (e.g. Bruck *et al.*, 2002; Cote and Morgan, 2002). The scale's α reliability coefficient was 0.84.

Affective commitment. We measured subordinate's affective commitment to the organization using an eight-item scale developed by Wasti (2003). Participants rated items on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores were indicative of higher level of affective commitment (see Appendix for listing of items). Previous research has provided validation evidence for this scale and has shown that it forms a single factor with high reliability (e.g. Şahin, 2012). For the present study, the scale's α reliability coefficient was 0.76.

Organizational citizenship behaviors. We measured organizational citizenship behaviors of the subordinates using a six-item scale adapted from Smith *et al.* (1983). Participants rated items on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicated that the participant engaged more in organizational citizenship behaviors (see Appendix for listing of items). The scale's α reliability coefficient in this study was 0.92.

Control variable. Previous research suggests that age affect influences employee job satisfaction (Bedeian *et al.*, 1992), affective commitment (Kooij *et al.*, 2010), and

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organizational citizenship behaviors (Chattopadhyay, 1999). We controlled for the effect of followers' age (individual-level variable) on criterion variables.

Analytic approach

To assess the discriminant validity of the constructs measured at the individual level in the present study, we conducted a CFA using covariance matrix and maximum likelihood estimation. Results of the proposed three-factor model (satisfaction with leader, affective commitment, organizational citizenship behavior) demonstrated good fit with the data, $\chi^2 (n = 150) = 269.52$ with 132 df, $p < 0.001$, CFI = 0.97, GFI = 0.90, NNFI = 0.95, and RMSEA = 0.055 (Browne and Cudeck, 1993; Hoyle, 1995). To test for the discriminant validity of the constructs, we compared the three-factor model with several alternative models. Nested model comparisons demonstrated that the three-factor model was superior to the alternative models. Results showed a significantly worse fit for the two-factor model (satisfaction with leader + affective commitment, organizational citizenship behavior) and for the single-factor model (satisfaction with leader + affective commitment + organizational citizenship behavior). Hence, the fit indices of the nested models showed that the constructs measured at the individual level were distinct.

Since individual-level data (i.e. followers) were nested within groups (i.e. leaders), hierarchical linear modeling (HLM) techniques were used to test the multilevel models (Raudenbush and Bryk, 2002). In line with the recommendation from literature (e.g. Hofmann and Gavin, 1998; Raudenbush and Bryk, 2002), all variables at the individual level were centered around their ground means. At the beginning, a null or fully unconditional model with no independent variables at the individual level or group level was estimated to test the significance level of individual-level variables (Bliese, 2000). Afterwards, to address the aim of the study, we used means-as-outcomes model (Raudenbush and Bryk, 2002). The motivation of this model is the question on if the effects of leaders' Theory X and Y managerial assumptions have impact on subordinates attitudes and behaviors.

Results

Tables I and II report the descriptive statistics and correlations of variables at individual and group level, respectively. An examination of correlations revealed significant associations among variables. However, the main interest of the present study was in the HLM analyses.

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Gender	0.04	0.21	–						
2. Age	30.59	4.41	0.00	–					
3. Tenure with the organization	8.26	4.92	–0.07	0.94**	–				
4. Tenure with the leader	9.68	7.35	–0.05	0.25**	0.27**	–			
5. Satisfaction with leader	4.23	0.66	–0.05	0.29**	0.27**	0.41**	(0.84)		
6. Organizational citizenship behavior	4.65	0.41	0.13	0.16*	–0.10	0.17*	0.43**	(0.92)	
7. Affective commitment	4.73	0.54	0.03	0.32**	0.29**	0.35**	0.54**	0.50**	(0.76)

Notes: $n = 150$. Gender was coded as: 0 for male, 1 for female. Scale reliabilities (α) are displayed between parentheses on the diagonal. * $p < 0.05$. ** $p < 0.01$

Table I.
Descriptive statistics and correlations: individual-level variables

Before conducting multilevel research analyses, a null model that did not include any predictor variables was estimated to test the significance level of individual-level variables. The χ^2 tests for the amount of variation in the changes in satisfaction with leader ($\chi^2 = 145.56$; $df = 49$; $p < 0.001$), affective commitment ($\chi^2 = 200.63$; $df = 49$; $p < 0.001$), and organizational citizenship behaviors ($\chi^2 = 89.23$; $df = 49$; $p < 0.01$) between groups were significant. The computed intraclass correlations ICC1 were 0.39 for satisfaction with leader, 0.50 for affective commitment, and 0.21 for organizational citizenship behaviors. All ICC1 values were greater than 0.12, indicating that appropriate variance in individual-level variables existed between-groups, justifying further the HLM analysis (Bryk and Raudenbush, 1992).

H1 predicted that the Theory Y managerial assumptions are positively associated with followers' satisfaction with leader (*H1a*), affective commitment (*H1b*), and organizational citizenship behaviors (*H1c*). Table III shows that the Theory Y managerial assumptions had significantly positive relationships with satisfaction with leader ($\gamma_{02} = 0.23$, $p < 0.001$), affective commitment ($\gamma_{02} = 0.13$, $p < 0.01$), and organizational citizenship behavior ($\gamma_{02} = 0.14$, $p < 0.01$). Therefore, *H1* was supported.

H2 predicted that the Theory X managerial assumptions are negatively associated with followers' satisfaction with leader (*H2a*), affective commitment (*H2b*), and

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Gender	0.02	0.14	–				
2. Age	38.24	6.72	–0.26	–			
3. Tenure with the organization	16.22	6.71	–0.26	0.98**	–		
4. Theory X managerial assumptions	2.14	1.03	0.36**	0.01	–0.04	(0.72)	
5. Theory Y managerial assumptions	3.27	1.05	–0.10	–0.20	–0.20	–0.22*	(0.74)

Notes: $n = 50$. Gender was coded as: 0 for male, 1 for female. Scale reliabilities (α) are displayed between parentheses on the diagonal. * $p < 0.05$. ** $p < 0.01$

Table II.
Descriptive statistics and
correlations: group-level
(leaders) variables

Variables	Satisfaction with leader				Affective commitment			Organizational citizenship behavior		
	Coefficient	SE	<i>t</i>		Coefficient	SE	<i>t</i>	Coefficient	SE	<i>t</i>
Intercepts-as-outcomes model for										
Level 1 intercept										
Level 2 intercept	γ_{00}	4.33	0.45	9.63***	4.68	0.40	12.26***	4.76	0.31	15.01***
Theory X	γ_{01}	−0.14	0.05	−2.54**	−0.12	0.06	−1.69	−0.05	0.03	−1.36
Theory Y	γ_{02}	0.23	0.05	4.17***	0.13	0.05	2.33**	0.14	0.04	2.39**
Intercepts-as-outcomes model										
Level 1 slope										
Age follower	γ_{10}	0.02	0.01	1.945	0.01	0.01	1.237	0.00	0.00	0.697
<i>R</i> ²			0.55			0.33			0.34	

Notes: The following set of equations was used for testing *H1* and *H2*. Level 1: $Y_{ij} = \beta_{0j} + \beta_{1j}(\text{Age}_{\text{follower}}) + r_{ij}$; Level 2: $\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Theory Y})_j + \gamma_{02}(\text{Theory X})_j + u_{0j}$, $\beta_{1j} = \gamma_{10} + u_{1j}$. The indices i and j refer to subordinates and groups (i.e. leaders), respectively; Y_{ij} is satisfaction with leader, or affective commitment, or organizational citizenship behavior of the i th subordinate for the j th group; β_{0j} is the intercept for group j ; r_{ij} and u_{0j} are the Level 1 and Level 2 residuals, respectively. γ is Level 2 regression coefficient, R^2 = variance explained by level 2 variables. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table III.
Hierarchical linear
modeling results
predicting subordinates'
attitudes and behaviors

organizational citizenship behaviors (*H2c*). As shown in Table II, the Theory X managerial assumptions had significantly negative relationship with satisfaction with leader ($\gamma_{01} = -0.14$, $p < 0.01$), but was not related to affective commitment ($\gamma_{01} = -0.12$, $p = 0.09$) and organizational citizenship behavior ($\gamma_{01} = -0.05$, $p = 0.13$). Therefore, *H2* was partially supported.

Furthermore, the proportion of variance explained by the Theory X and Y managerial assumptions is 0.55 for satisfaction with leader, 0.33 for affective commitment, and 0.34 for organizational citizenship behavior. In other words, the variations in followers' attitudes and behaviors are explained by leaders' Theory X and Y managerial assumptions.

Discussion

The present study investigated the influence of Theory X and Y managerial assumptions on followers' satisfaction with leader, affective commitment, and organizational citizenship behavior in a multilevel research design. Overall, the results indicated that the Theory Y managerial assumptions were significantly and positively related to followers' satisfaction with the leader, affective commitment, and organizational citizenship behaviors, while leaders' Theory X managerial assumptions had only a significantly negative relationship with satisfaction with the leader. However, the Theory X managerial assumptions had no significant relationships with affective commitment and organizational citizenship behavior of the followers.

Specifically, the results of HLM analysis confirmed that followers' satisfaction with the leader, affective commitment, and organizational citizenship behaviors can be (directly) influenced by leaders' Theory Y managerial assumptions. This finding empirically supports the general proposition predicted by the SET (e.g. Blau, 1964; Gouldner, 1960) and McGregor's (1960) work. When military leaders use a democratic approach involving the act of releasing a high degree of control and giving autonomy, displaying more participative leadership styles, this causes followers to reciprocate the favorable treatments such as commitment, citizenship behavior, and satisfaction with their leaders. Consistent with the prior findings (e.g. Şahin, 2012), the results provided support for military leaders' Theory Y managerial assumptions in predicting desirable work attitudes of followers in a military context. Moreover, our finding empirically supports the general argument that Theory Y managerial assumptions (which lead to participative or democratic leadership behavior) are increasingly likely to be more effective than Theory X managerial assumptions (which lead to autocratic leadership behavior) in today's knowledge based, learning-oriented organizations (Carson, 2005; Forrester, 2000; Kochan *et al.*, 2003; Kopelman *et al.*, 2010).

The findings of the present study did not, however, confirm that Theory X managerial assumptions had a significant effect on affective commitment and organizational citizenship behavior of the followers. One possible explanation for the absence of significant relationships among Theory X managerial assumptions, commitment, and citizenship behavior could be explained by the unique nature of military organizations. Military organizations are generally characterized by high in formalization and formal hierarchy of authority (Jones *et al.*, 2003). Moreover, the psychological and employment contract for military personnel is quite different in such that they swear an oath that they will sacrifice for their country (Jordan *et al.*, 2007). Thus, although followers perceive a social-emotional distance between their leader and themselves and a strictly task-centered relationship characterized by low exchange and top-down influence, they might still feel an obligation to reciprocate the favorable treatment such as commitment to organization and performing more than what is formally required by their job

descriptions. In other words, despite the leaders' Theory X managerial assumptions, military personnel do not decrease their commitment and withdraw their citizenship behaviors because of the employment contract and some unique characteristics of military organizations.

One of the implications that may be drawn from this study is that military leaders can enhance subordinates' satisfaction with the leader, affective commitment to the organization, and organizational citizenship behaviors by assuming and behaving that their followers are capable of self-direction and self-control, are creative and can accept responsibility. Thus, based on the importance of Theory Y managerial assumption in fostering the desirable attitudes and behaviors of followers, it makes sense to try to select and/or train leaders who are willing to give autonomy and responsibility to followers (McGregor, 1960, 1966; McGregor and Cutcher-Gershenfeld, 2006). Military leaders' managerial assumptions and beliefs about human motivation have effect on workplace climate which may further facilitate or inhibit the demonstration of desirable outcomes (McGregor, 1960, 1966). Given the importance of commitment (Tremblay, 2010) and good soldier syndrome (Gurbuz, 2009) in both combat and non-combat situations, training military leaders in order to have positive, optimistic views of followers and display more participative leadership styles using internal motivation and rewards would certainly be useful for military setting.

McGregor's work (1960, 1966, 1967) is widely recognized as a pioneering attempt in the concept of organizational development (e.g. Burke, 2011). Providing feedback is an essential instrument in an organizational development process, in order to increase self-awareness of individuals. This will give an opportunity for managers to check the accuracy of their managerial self-perceptions (Kopelman *et al.*, 2012). As noted before, today's practitioners and scholars give more emphasis on the softer approach to management that Theory Y postulates (Carson, 2005). This should not mean the dismissal of Theory X. As Kopelman *et al.* (2012) stated, a manager's orientation is viewed as a continuous phenomenon, in other words a manager could be high on both Theory Y and Theory X orientation. However, Schein (2009) argued that in all situations a manager with a Theory Y orientation would be more likely to exhibit situationally appropriate managerial behaviors than would a manager with a Theory X orientation. Specifically, understanding the interaction effects of Theory Y and X orientations on several outcomes in work setting is one avenue for future research.

Another suggestion for future research relates to the potential impact of cultural context of the study on predictive power of McGregor's (1960, 1966) Theory X and Y. Although the results of our study are in accordance with prior findings in similar cultural context (e.g. Şahin, 2012), more research is needed in different cultural context to understand the role of Theory X and Y assumptions and beliefs about human motivation that cause two different managerial practices and behaviors (McGregor, 1960, 1967). It is widely accepted that societal culture influences management/ leadership behaviors and effectiveness (e.g. Gelfand *et al.*, 2007); therefore, cross-cultural studies on managerial assumptions help to better understand the effect of McGregor's Theory X and Y on individual and organizational outcomes in different cultures.

Strengths and limitations

One of the major strengths of the present study was gathering data from both leaders (Theory X and Y assumptions) and followers (satisfaction, commitment, and OCB) and using HLM technique to test the hypothesis, thereby lessening spurious associations

emanating from potential bias problem (Podsakoff *et al.*, 2003). Second, despite popularity and wide recognition of McGregor's Theory X and Y in organizational management and leadership literature (Bedeian and Wren, 2001; Miner, 2003), it has not been possible to test McGregor's Theory X and Y due to the lack of valid and reliable measures until recently (Kopelman *et al.*, 2008). Therefore, the present study testing McGregor's Theory X and Y with field data from military setting might be an important contribution to related literature.

Several limitations should be acknowledged for future studies. One such limitation is that our sample represents a peacetime, non-combat military environment with nearly a 45-hour week. This may limit the generalization of our findings for life-threatening combat conditions and for units having high operational tempo in which the issue of Theory X and Y assumptions and subordinates behaviors involve conceptually different, superior-follower dynamics. Therefore, follow-up studies should validate the findings of the present study in life-threatening combat conditions as well as across different nations' military units. Second, the majority of the leaders and subordinates sampled were male. Future studies should balance more diverse military populations to confirm the finding of present study for generalizability.

Third, our sample was totally military personnel as we explained before. The military organizations are generally characterized by being large in size, high in centralization and formalization, and formal hierarchy of authority (Jones *et al.*, 2003), compared to civilian organizations. Therefore, future studies should shed some light on the issue from civilian organization perspective in order to generalize the findings of the present study. Furthermore, it would be worthwhile for future studies to investigate these variables (e.g. size, centralization, and formal hierarchy of authority) as potential moderators.

Last but not least, we use a cross-sectional design in the present study. Without longitudinal data it is impossible to draw definitive conclusions regarding the causal relations among variables. Military leaders' Theory X and Y managerial assumptions and followers' satisfaction with leader, affective commitment, and organizational citizenship behavior were collected simultaneously, whereas to establish causality, there should be a sufficient time lapse between leaders' managerial assumptions and followers' attitudes and behaviors. Nevertheless, the results of present study suggest that followers' response to leaders' managerial assumptions is, to a great degree, consistent with SET. However, the issue regarding the sustainability of social exchange relations needs to be more explored in conjunction with several management practices (e.g. downsizing, merging). Specifically, today's work environments are characterized by changes associated with globalization, technology influx, diminishing resources, and increasing costs. Such changes have placed an increased pressure on organizations to adapt to these conditions (Haeckel, 1999). SET states that, in order to exist and continue, a relationship should provide cost/benefit ratio or outcome that compares favorably with alternative situation. Cost and benefits may include emotional, financial, and social realms and they may have variance in terms of quantity and quality among employees (Cropanzano and Mitchell, 2005). When the costs outweigh the benefits, such evaluation of employees then determine whether he or she will show low or high performance, persist (motivated and/or engaged), or withdraw (leave) from a given relationship. SET may not explain what will happen and therefore predict organizational effectiveness under several boundary conditions. Would a Theory X manager be more successful in a situation where organization goes to downsizing? Additional research is needed to test the question.

Conclusion

In conclusion, we believe that Theory X and Y managerial assumptions are a worthwhile basis from which to examine several important individual outcomes. In particular, through the application of a multilevel research design, the present study found empirical support for how leaders' Theory Y managerial assumptions impact followers' satisfaction with leader, affective commitment, and organizational citizenship behavior. Despite some criticisms, McGregor's Theory X and Y have long been compelling ideas in management literature. The present study is one of the earliest studies in understanding how military leaders' Theory X and Y assumptions effect followers' favorable treatment and suggests several avenues for future examination of the topic.

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Further reading

- Uçak, H. (2011), "Turkey's population dynamics as a candidate country for EU membership", *International Journal of Economics and Financial Issues*, Vol. 1 No. 4, pp. 180-198.

Appendix. McGregor's Theory X and Y managerial assumptions scale (Kopelman *et al.*, 2008, 2012) consists of the following eight items

Theory X:

- (1) Most employees cannot be trusted;
- (2) Most employees will not exercise self-control and self-motivation – managers must do this for them;
- (3) Most people are lazy and do not want to work; and
- (4) Most employees have little ambition.

Theory Y:

- (1) For most people, work is as natural as play or recreation;
- (2) Most employees would prefer increased responsibility to increased job security;
- (3) Most people do want responsibility; and
- (4) Most employees prefer supervising themselves rather than close supervision.

Satisfaction with leader scale (adapted from Spector, 1985) consists of the following four items:

- (1) My supervisor is quite competent in doing his/her job;
- (2) My supervisor is unfair to me;

- (3) My supervisor shows too little interest in the feelings of subordinates; and
- (4) I like my supervisor.

Affective commitment scale (adapted from Wasti, 2003) consists of the following eight items:

- (1) I really feel as if this organization's problems are my own;
- (2) I do not feel a strong sense of belonging to my organization;
- (3) I do not feel "emotionally attached" to this organization;
- (4) I do not feel like "part of the family" at my organization;
- (5) This organization has a great deal of personal meaning for me;
- (6) I feel a sense of "ownership" for this organization;
- (7) I feel it is prestigious to be a part of this organization; and
- (8) I identify with the goals of this organization.

Organizational citizenship behavior scale (adapted from Smith et al., 1983) consists of the following six items:

- (1) I help other personnel with their work when they have been absent;
- (2) I am always on time in arriving at work in the morning and after breaks;
- (3) I work beyond what is expected;
- (4) I volunteer for overtime work as required;
- (5) I help other personnel who have heavy workloads; and
- (6) I do not take extra breaks while at work.

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