MEASUREMENT OF TRANSFORMATIONAL LEADERSHIP THROUGH A CONDITIONAL REASONING TEST

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ABSTRACT

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The aim of the current study is to assess transformational leadership proclivities based on the Conditional Reasoning Test approach (CRT; James, 1998). The CRT is a relatively new implicit assessment system that is used to identify the justification mechanisms (i.e. cognitive biases) indicative of specific motives which underlie personality (James, 1998). ‘Justification mechanisms’ (JMs) are rational and sensible explanations - in contrast to irrational and foolish - that people are inclined to produce for their behaviors and decisions (James, & Mazerolle, 2002; Kunda, 1990). People with different personalities and motives have different JMs. The power motive - with its’ JMs of agentic bias and power attribution bias-, the activity inhibition motive, the change motive - with its’ JMs of efficacy and personal responsibility inclination bias, positive connotation of change bias, and identification with change initiators bias-, and finally the exhibition motive were determined as the motives of leaders and transformational leaders. The present study sample included 234 participants; 81 in a leadership position and 153 in a subordinate position. The CRT that was developed had a moderate effect size in the prediction of whether or not employees occupied a leadership position, and improved prediction of position...
over conceptually equivalent self-report counterparts. Furthermore, CRT had a significant moderate association with subordinate ratings of the target leaders’ transformational leadership style offering significant incremental variance over leader’s self-rated transformational leadership perceptions, personality, and motivation to lead. The study contributes to the literature on implicit personality assessment via conditional reasoning using justification mechanisms and to the assessment of leadership.

**Keywords:** conditional reasoning test, leadership, transformational leadership

Anahtar kelimeler: koşullu muhakeme testi, liderlik, dönüşürcü liderlik
To The Most Valuable Person In My Life My Daughter Duru DEMİRAN,
and My Dearest Husband Volkan DEMİRAN
and My Beloved Parents Kadriye and Mehmet TUNCA and My Sisters
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1.1 Overview
The aim of the current study is to assess transformational leadership proclivities based on the Conditional Reasoning Test approach (CRT; James, 1998). Several CRTs have been shown to have superior criterion-related validities as compared to the self-report counterparts of the same constructs (James, & Mazerolle, 2002). The CRT is a relatively new implicit assessment system that is used to identify the justification mechanisms (i.e. cognitive biases) indicative of specific motives which underlie personality (James, 1998). People try to produce sensible explanations for their behaviors because they want to believe their behaviors are justified, which is to say are rational or sensible in contrast to irrational and foolish (James, & Mazerolle, 2002; Kunda, 1990). For that purpose, people rely on reasoning processes for justifying their choice of behaviors or decisions, and this reasoning process is referred to as ‘justification mechanisms’. People with different personalities have different justification mechanisms. In order to test the transformational leadership style, the underlying personality tendencies and motives were investigated through conditional reasoning test. First the literature on leadership and how leadership proclivities are related to certain motives and personality styles are reviewed. Specific cognitive biases are identified based on this literature and were utilized in developing the CRT-Transformational Leadership measure.

1.2 Leadership
Modern-day organizations need to achieve higher level of performance in order to struggle with high demands of the competitive global market and traditional organizational bureaucracy. Organizational power is not sufficient to meet the needs of today’s market because traditional organizations seem to be inflexible in terms of delivering goods and services at the expected level of speed and quality. Therefore, organizations reorganize their standards and departments to change the work environment with an aim to meet the needs of modern technology. Changing norms about proper behavior that result from the changing structure, working standards and
employment policies often challenge or take a stand against present cultures (Cartwright, 2003). So, many organizations see effective leaders in the organization as a competitive advantage and invest money to leader development programs (Training, 2005; Vicere, & Fulmer, 1998). Organizations also integrate leadership assessments into their selection systems to hire people who have leadership abilities as it is claimed that the contribution of leaders to the organization is high and they can increase profitability (Northouse, 2010).

1.3 Methods of Leader Assessment

A leader in an organization can be selected in a number of ways that includes appointment by high authorities, simple rotation or democratic election, leaderless group discussion, cognitive ability test, personality tests, structured interviews and simulations (Hogan, Curphy, & Hogan, 1994; Pandey, 1976). Goldman, Bolen and Martin (1961) studied the election and appointment methods of leaders and they found that groups with appointed leaders performed more poorly than groups with non-appointed leaders in which the leader emerges in the group. In addition, the effect of leadership selection methods on group performance was investigated by Goldman and Fraas (1965). The selection procedures were (1) electing the leader based on group vote, (2) selecting the leader in terms of their ability to perform the group task, (3) selecting the leader randomly by the experiment, (4) no leader was appointed. According to the results, performance was best when a leader was selected in terms of ability to perform the group task followed by when a leader was selected by a group, when a leader was selected randomly by the experimenter and lastly the no leader group condition.

The other leader selection method is leaderless group discussion (LGD) which is a technique generally used for studying leader emergence and leadership potential. According to Howard (1997) LGD has been an integral part of assessment centers and it has been used for leader selection for over 60 years. In LGD, a group of people which is generally composed of job candidates and team members come together and discuss a problem to solve it. The important thing is that no leader is appointed to these discussion groups. During the discussion, candidates exchange
their ideas, interact with each other and this situation creates an opportunity to
assume a leadership position in the group. Also, trained observers observe and rate
each participant in terms of their leadership potential and also rate the naturally
emerging informal leader in the group. Furthermore, sometimes group members rate
each other’s emergent leadership behaviors (Ensari, Riggio, Christian, & Carslaw,
2011).

Furthermore, in order to select successful leaders, psychologists measure
cognitive ability and personality, apply structured interviews, and use simulations in
assessment centers (Papadopoulos, 2012; Hoffman, Woehr, Maldagen-Youngjohn, &
Lyons, 2011; Hogan, Curphy, & Hogan, 1994). On the other hand, Hogan et al.
(1994) stated that these assessment methods are not used by many organizations
because organizations may be unaware or reluctant to use psychological devices.
Many organizations including academic departments, petty officers, shop
supervisors, military and sergeants in the protective services select leaders from their
workforce. For example they choose a first-line supervisor as a leader according to
their technical talents, not based on their leadership skills. In other words, someone
whose performance is high compared to others in the department is chosen as the
leader. With such claims, the question of why psychologists are not participating
more in leader selection arose. Among the potential reasons as to why organizations
do not make use of scientific selection methods, Hogan et al. (1994) stated that (1)
investigator’s empirical research results are too narrow that practitioners think it is
irrelevant for practice, (2) researchers are too careful about generalizing beyond their
findings that they look like having nothing to say, (3) organizations think that
psychologists’ service would cost them more than a poor selection decision, (4)
psychologists’ status is low for their views to be considered, and (5) psychologists
are generally unaware about political realities enclosing selection.

Even though organizations do not make fair use of the scientific selection
methods, psychological research has shown that specific cognitive and personality
variables are associated with leadership emergence and effectiveness (e.g. Bartone,
Snook, & Tremble, 2002, Bass, 1990; Judge, Bono, Ilies, & Gerhardt, 2002; Stogdill,
1948). For example, Rotem, Schneider, Wasserzug and Zelker (2008) showed that the personality dimensions of attentiveness, assertiveness, interpersonal skills, managerial skills, patience, conflict management, maintaining a broad organizational perspective, adopting and leading change, professional knowledge, and charisma were rated as important predictors of effective nursing leaders. Bartone et al. (2002) investigated the association between cognitive variables and effective leadership where cognitive variables were specified as spatial judgment, college entrance exam scores, problem solving, social judgment skills, and logical reasoning. Their analysis yielded significant correlations between effective leadership and college entrance exam scores, social judgment and logical reasoning, but with small effect sizes ($r$ range = .07 to .12).

Moreover, in the meta-analytic study of Hoffman and colleagues (2011), 25 individual differences variables related to effective leadership behavior were investigated. They grouped 25 individual differences into two categories of personality-and-intelligence and knowledge–and-skills. According to the results of the study, personality-and-intelligence ($\rho = .27$) and knowledge-and-skills ($\rho = .26$) all had approximately the same effects size. Furthermore, large correlations were found between leader effectiveness and charisma, decision making, management skills, problem solving skills, and interpersonal skills which ranged from .30 to .57.

Researchers investigating the personality trait theories of leadership seek to solve the two questions of what traits differentiate leaders from followers and what the size of those differences are (Bass, 1990). Early research suggested that leadership emergence and effectiveness were poorly predicted by personality (Stogdill, 1948). However, recent studies claimed that personality traits explained a significant portion of the variance in leadership (e.g., Ensari et al., 2011; Judge et al., 2002). The next section provides a review of the nature of leadership, followed by its correlates including personality.

1.4 Conceptualization of Leadership

In an effort to capture the varying personality correlates of leadership emergence and/or effectiveness, one would benefit from looking at different
conceptualizations of leadership. There are different ways to explain leadership (Shertzer & Schuh, 2004). For example, according to Northouse (2010), leadership is a process in which a person affects a group of individuals in order to accomplish a common goal. Furthermore, Hogan et al. (1994) claimed that leadership is a process all about making other people believe in putting aside their self-interests and chase a common goal that is important for group success.

Political scientist Burns (1978) stated that “leadership is one of the most observed and least understood phenomenon on earth” (p.3). There are many studies that investigated the leadership concept and its’ effects on organizational outcomes. Trait and contingency theories (Fiedler, 1965), normative decision theories (Vroom & Yetton, 1973), behavioral and managerial approaches (Lippitt & White, 1943; Stogdill, 1963), leader-follower exchange theories (Danserau, Graen, & Haga, 1975), transactional and charismatic leadership studies (Bass, 1985) are among different leadership models or conceptual frameworks. Furthermore, leadership is a topic studied not only in psychology, but also in other disciplines, such political science, theology, education, history and philosophy, and each discipline has its unique contribution to our understanding of the phenomenon of leadership. Different study designs such as qualitative and quantitative studies that included case studies, laboratory experiments have been conducted in understanding leadership (Klenke, 1993).

A review of the recent literature on leadership would indicate that transformational leadership has received considerable research attention, largely due to consistent results suggesting its effectiveness in terms of employee well-being (Barling, Slater, & Kelloway, 2000; Bass, 1985;). The concept transformational leadership was first investigated by Downton (1973) and then the concept was further developed by Burns (1978). In his book, Burns divided political leaders into two categories that were transformational and transactional leaders. He claimed that transformational leadership was more than the compliance of followers, and that it included understanding the needs, values and beliefs of the followers. On the other
hand, transactional leadership emerges when leaders have an opportunity to cooperate with their followers to get something valued.

Bass (1985) carried Burns’s leadership styles into the organizational management literature and investigated these two types of leadership styles more deeply. According to Bass (1985), transformational leaders try to improve colleagues’, subordinates’, followers’ or clients’ awareness about their goals. He further claimed that this enlightenment would occur with a leader who has vision and self-confidence. Also, he claimed that transformational leaders do not choose popular beliefs, but they rather argue with other people for what they believe to be right or good for the followers. On the other hand, he explained transactional leaders as leaders who try to improve and maintain the quality and quantity of performance. Transactional leaders give something to followers that they want and in turn they expect something from their followers.

Bass (1985) proposed a model in which transformational leadership was explained with four dimensions which were idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. In idealized influence the transformational leader behaves as a role model for the followers and followers admire, respect and trust the leader and try to behave like the leader. Inspirational motivation was conceptualized as motivating followers with behaviors which results in resurgence of the team work, enthusiasm and optimism. Intellectual stimulation was defined as supporting followers to be innovative by encouraging them to question the accepted opinions. Leaders get together with followers to find solutions to problems. Finally, individualized consideration was conceptualized as understanding and accepting individual differences, behaving like a coach, and trying to deal with each follower’s needs separately (Bass, 1998).

1.5 Individual Differences Variables Associated with Leadership

Judge et al. (2002) meta-analytically reviewed trait correlates of leadership based on 222 correlations from 73 samples using the Five-Factor model of personality (Costa & McCrae, 1985) as an organizing framework. The strongest correlate of leadership was extraversion ($\rho = .31$), followed by conscientiousness,
neuroticism, openness to experience and agreeableness with the magnitude of correlations ranging from .08 to .28. Neuroticism ($\rho = .24$) negatively correlated with leadership. In addition to these, the authors also meta-analyzed the relationship between lower-order personality traits (i.e., facets) and leadership and they found that leadership moderately correlated with dominance, sociability, achievement, dependability with the correlations of .37, .37, .35 and .30 respectively, and found small correlation for self-esteem and locus of control which were .13 and .19 (See Table1).

In the meta-analytic study of Hoffman et al. (2011), moderate correlations with dominance and creativity which were .31 and .35 and smaller correlations for energy, honesty/integrity, achievement motivation, self-confidence, oral communication and written communication ranging from .24 to .29 were reported.

Furthermore, Ensari et al. (2011) meta-analyzed individual differences as predictors of leader emergence in 45 studies utilizing leaderless group discussions (LGD). They found that the relationship between leader emergence in LGD was significantly predicted by authoritarianism, creativity, masculinity, extraversion and intelligence (Fisher’s z ranged from .32 to .39) and by the trait of antagonism, conscientiousness, leadership experience/potential, openness to experience, self-esteem/efficacy, social skills and emotional stability (Fisher’s z ranged from .12 to .20). No significant relationships were found with agreeableness, femininity or neuroticism.

In O’Connor and Jackson (2010)’s study there were four different tasks in which each task was designed to reveal and measure the specific leadership dimensions of initiating structure, high consideration, non-aggressiveness, persuasiveness and also production rate. Each participant rotated through the different tasks and group members rated each other on “emergent leadership” in each task separately. Finally, it was found that leader emergence was independent from specific tasks indicative of leader’s various behaviors or productivity; however a significant portion of variance in leaders’ emergence was explained by the personality characteristics of harm-avoidance and cooperativeness. To sum up, the
researchers claimed that regardless of the specific situation or task some people tend to appear as the leader based on their personality characteristics.

1.6 Individual Differences Variables Associated with Transformational Leadership

In the literature, researchers examined the relationship between transformational leadership and personality. For example, in the study of Judge and Bono (2000) extraversion ($\beta = .15$) and agreeableness ($\beta = .23$) positively predicted transformational leadership effectiveness and openness to experience ($r = .20$) and transformational leadership effectiveness correlated significantly; however no significant relationship was observed with neuroticism and conscientiousness. In addition to these, when facets of Big Five dimensions were investigated, it was found that three facets of extraversion which were assertiveness, positive emotions and activity, four facets of openness to experience feelings which were feelings, actions, ideas and values, and finally four facets of agreeableness which were trust, straightforwardness, altruism and tender-mindedness significantly correlated with transformational leadership with the correlation coefficients ranging from .13 to .17.

Furthermore, Bono and Judge (2004) meta-analyzed the relationships between the five factors of personality and ratings of transformational leadership behaviors. In their investigation of the dimensions of transformational leadership, they combined idealized influence and inspirational motivation which they labelled as charisma. According to the results of the study, extraversion ($\rho = .22$) and neuroticism ($\rho = -.17$) were related to charisma. Also, agreeableness ($\rho = .21$) and openness to experience ($\rho = .22$) were related to charisma, however their credibility values included zero. Furthermore, it was indicated that intellectual stimulation was related to extraversion ($\rho = .18$) and neuroticism ($\rho =-.12$). Similar results were found for individualized consideration with extraversion ($\rho = .18$) and neuroticism ($\rho =-.10$). Finally, extraversion ($\rho = .24$) and neuroticism ($\rho =-.17$) were related to the composite of transformational leadership dimensions.

Aside from the Five Factor Model of personality, Van Eeden, Van Cilliers, and Van Deventer (2008) found that transformational leaders had high scores on
traits related to influencing others, assertiveness, willingness to express themselves and taking the lead. Also, they found that, transformational leaders were open to suggestions, involved others in decision making and they questioned the majority decisions. In addition to these Yukl and Van Fleet (1992) claimed that effective leaders are high in energy, stress tolerance, integrity, emotional maturity and self-confidence.

Dubinsky, Yammarino, and Jolson (1995) investigated the personal characteristics related to the dimensions of transformational leaders and found small and significant correlations between behavioral coping and inspirational leadership \((r = .29)\) and between risk taking and charismatic leadership \((r = .25)\). Furthermore, Hartog and Belschak (2012) studied the relationship between job autonomy, self-efficacy and transformational leadership. They described job autonomy as a personality characteristic in which people seek alternative ways to perform the task, take more responsibility and have direct influence on the outcomes. According to the results transformational leadership significantly correlated with self-efficacy \((r = .21)\) and job autonomy \((r = .40)\). Moreover, Peterson, Walumbwa, Byron, and Myrowitz (2009) indicated that transformational leaders among CEOs of high-tech companies showed behaviors related to hope, optimism and resiliency.

In addition, transformational leaders’ personality was investigated by Khoo and Burch (2008) to see whether or not such leaders demonstrate aberrant personality tendencies that are also known as the “dark side of leadership”. They indicated that transformational leadership could be predicted by colorful-histrionic personality \((\beta = .44)\), inversely by avoidant personality \((\beta = -.35)\), and inversely by narcissistic personality \((\beta = -.32)\). That is, transformational leaders have a tendency to be expressive, animated and dramatic, have a desire to be the center of attention; do not take the risk of not being liked by others; and do not overestimate their capabilities, do not show unusual self-confidence. Similar to these, Resick, Whitman, Weingarden, and Hiller (2009) found that narcissism \((r = -.50)\) and core self-evaluations \((r = .52)\) significantly related to transformational leadership. According to their claim, people who are high on core-self-evaluation have a positive outlook.
and believe that they can control the things that happen and are responsible for their actions, thus they can easily motivate their followers by creating a vision and in the light of that vision all people work together with confidence. It appears that, transformational leaders display healthy and desired personality characteristics, in addition to being attention seekers.

To sum up, it has been concluded that extraversion and its facets which were assertiveness, positive emotions and activity were the most powerful predictors of transformational leadership, followed by neuroticism. Furthermore, other than the five factor model variables, self-efficacy, self-confidence, core-self evaluations, high energy, stress tolerance, integrity, and emotional maturity were indicated as the personality characteristics for transformational leadership. Surprisingly, histrionic, avoidant (negatively) type personalities which were generally assumed as personality disorders were found strongly related to transformational leadership (Table 2). Also, in the current study it is assumed that not only personality affects transformational leadership but also people’s motives and needs play a significant role to understand transformational leadership which is discussed in the following section.
<table>
<thead>
<tr>
<th>Trait/Motive</th>
<th>Study</th>
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<td>Narcissism</td>
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<td>Self-report, self-report</td>
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<td>Core-self evaluation</td>
<td>Fiedler (2006)</td>
<td>Self-report</td>
<td>r = -0.52</td>
<td>MLQ, S, OPQ32, 16PF</td>
<td>n.r.</td>
<td>n.r.</td>
</tr>
<tr>
<td>Influencing others</td>
<td>Fiedler, Cillers, Descenter (2006)</td>
<td>Self-report</td>
<td>r = 0.52</td>
<td>MLQ, S, OPQ32, 16PF</td>
<td>n.r.</td>
<td>n.r.</td>
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<td>Willing to express opinions</td>
<td>Fiedler, Cillers, Descenter (2006)</td>
<td>Self-report</td>
<td>n.r.</td>
<td>MLQ, S, OPQ32, 16PF</td>
<td>n.r.</td>
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<td>Taking the lead</td>
<td>Fiedler, Cillers, Descenter (2006)</td>
<td>Self-report</td>
<td>n.r.</td>
<td>MLQ, S, OPQ32, 16PF</td>
<td>n.r.</td>
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MLQ = Multifactor Leadership Questionnaire, PI = Personal Initiative, PPB = Prosocial Proactive Behavior, CLO = Dutch Charismatic Leadership in Organizations, MLQ5X = Multifactor Leadership Questionnaire Form 5X, OPQ32 = Occupational Personality Questionnaire version 32, 16PF = Sixteen Personality Factor Questionnaire, HDS = Hogan development survey, ACS = Affective Commitment Scale, TLI = Transformational Leadership Behavior Inventory, ACL = Gough Adjective Check List.
1.7 Need and Motive Correlates of Transformational Leadership

McClelland linked personality characteristics to peoples’ needs and described a leadership motive pattern in order to understand the effective managers who occupy top positions in organizations. In McClelland and Burnham’s (1976) study researchers applied the Thematic Apperception Test (TAT) to managers and then scored their written stories to shown pictures and found that successful managers showed similar motives. According to this leadership motive profile an effective leader has to be high in the need for power (n Power) that is the leader wants to be a decision maker and influence all final decisions and other people. The effective leader has to be low in the need for affiliation (n Affiliation). Leaders who are low in n Affiliation make critical decisions without worrying about being disliked by their followers. According to this view, self-control is important because in order to maintain the rules and regulation of the organization, leaders have to be concerned with the organizational system. The other need is need for achievement (n achieve) and people with high and moderate n Achievement try to develop themselves to perform better and not force other people to do better. However, it was found that, n for Achievement is successful in small businesses and not for big companies, because people with the need for achievement try to enhance their personal gains and this personal achievement results in business success in small companies. However, transformational leaders in big companies generally do not show n Achievement because leaders in big companies do not only enhance personal success, but also try to increase the group gain. In other words, their basic aim is to enhance group performance not personal performance.

The final motive is activity inhibition which means people try to achieve organizational goals by following rules and procedures rather than concerning their personal goals and it was claimed that being high in activity inhibition is related to effective leadership. To sum up, according to the Leadership Motive Pattern (LMP), the predictors of successful leaders were high Power motivation (n Power), low Affiliation motivation (n Affiliation) high Activity Inhibition (A.I.) and moderate
Achievement motivation (McClelland, 1975; McClelland & Boyatzis, 1982; McClelland & Burnham, 1976, McClelland, Koestner & Weinberger, 1989).

Also, McClelland and Burnham (1976) investigated what makes or motivates a good manager and they found that even though common sense suggests that $n$ Achievement leads people to behave in a way of an effective manager, high $n$ achievement motivate people to do something for their own success and expect short-term feedback on their performance to see how well they are doing. However effective leaders have to do more than this; they have to influence others and create an environment in which all people are willing to perform for the organization. In light of these arguments they claimed that $n$ power is a stronger motivational factor for effective leaders because, people who have high $n$ power have a desire to be strong, have an impact and influence on others. Furthermore, authors emphasized that low $n$ affiliation and high activity inhibition are important motivational factors for effective leaders. Moreover, Foti and Hauenstein’s study (2007) yielded similar results; they found significant relationship between dominance, which is the most important component of power, and leadership emergence and leadership effectiveness.

Furthermore, Fisher (2009) investigated effective leaders’ characteristics and claimed that managers and leaders who want to be successful should try to realize employee needs and motives and suggested opportunities to do so. These personality variables were thought as related to activity inhibition. Similarly, House, Spangler and Woycke (1991) investigated the needs of achievement, power, affiliation and activity inhibition in relation to the performance of the US Presidents. In the study, historians rated each of 31 US Presidents in terms of their needs and motives. According to the coders’ perceptions, significant correlations between needs and leader performance were reported, for example $n$ Power ($r = .52$) and Activity Inhibition ($r = .39$) positively and Affiliation ($r = -.37$) negatively related to Presidents’ performance. Also, although they did not find a significant relationship with $n$ Achievement and Presidential performance, they found a significant negative
relationship with presidential charisma, presidential direct action, presidential social performance which ranged from -.19 to -.21.

To sum up, the findings reported above concerning needs are related to the concept of leadership in general and not specifically to transformational leadership. When the concept of transformational leadership is investigated deeply, it could be expected that achievement is not related to transformational leadership because as mentioned before achievement is a motive that generally motivates people to behave in a way of an effective manager, these types of leaders generally care about their personal success. However, for transformational leaders their group’s well-being has priority. Similarly, low affiliation which is related to effective leadership in general is not thought to relate to the concept of transformational leadership as transformational leaders are interested in their followers’ problems and they do not want to lose followers’ motivation by behaving in a non-emphatic manner. When the definitions of power and activity inhibition are investigated, it makes sense that these motivational factors would also relate to the transformational leadership concept because transformational leaders want to be decision makers, influence other people and also achieve organizational goals by following rules and procedures rather than concerning their personal goals (McClelland & Burnham, 1976).

Such motives have also been shown to be correlated with personality traits. According to Costa and McCrae (1988), the Big Five personality factors and facets are related to Murray’s (1938) needs; for example they found that extraversion was significantly correlated with change, dominance, exhibition, nurturance, play, sentience, affiliation, and desirability (r range = .32 to .62) and extraversion’s facet of assertiveness is significantly correlated with dominance, exhibition, achievement, and desirability (r range = .34 to .64). Also activity correlated with dominance, endurance, exhibition, achievement, and desirability (r range = .23 to .37) Furthermore, openness to experience significantly correlated with change, sentience and understanding (r range = .40 to .55) and its facets of actions was related to change (r = .56), ideas was related to achievement and understanding by .38 and .67 respectively. Finally, conscientiousness was positively related to achievement,
endurance, order and display (r range = .42 to .60) and was negatively related to impulsivity (r = -.39). Such associations emerged as needs direct behaviors and explain traits (Murray, 1938). The needs of dominance (power), exhibition, activity inhibition, and achievement also related to McClelland’s leadership motive profile (James, & Mazerolle, 2002). It appears that the personality factors of Extraversion, Openness, Conscientiousness that are correlates of leadership in general (and Extraversion as a consistent correlate of transformational leadership specifically) are expressions of the needs that underlie leadership as well.

To conclude, in the light of the available empirical evidence, extraversion and openness to experience appear to be related to effective leadership and also these personalities are related to Murray’s needs of power, dominance, exhibition, display, and change. When the common threads to the personality and motive correlates of leadership are identified together, McClelland’s needs of high n Power and high activity inhibition appear to be important motivators for transformational leadership together with motives for change and exhibition. Thus, drawing from the literature on the Big Five correlates, aberrant personality correlates, and motives that are discussed above in relation to transformational leadership in particular and occupying leadership positions in general, we identified the following motives and justification mechanisms: Power motive with the JMs of Power Attribution Bias, Agentic Bias; Activity Inhibition Motive, Change Motive with the JMs of Positive/Negative Connotation of Change, Efficacy and Personal Responsibility Inclination Bias and Identification with Change Initiators, and Exhibition Motive. These motives are described in details in the following section 1.11 but before that, problems with self-report assessments are discussed to show why the literature needs new implicit measures to assess personality.

1.8 Problems with Self-report Assessments

Most aforementioned results are based on self-report assessments of manager’s personalities and leadership style which yielded modest correlations with criteria at best. Self-report assessments are open to intentional or unintentional response biases. Response bias has become a highly controversial topic in
psychological measurement after 100 years of debate. In order to understand the critics about response bias, definitions of some important constructs such as positive impression management, negative impression management are given below.

According to the McGrath, Mitchell, Kim, and Hough (2010) response bias is responding inaccurately to an indicator in a consistent manner which results in systematic error in prediction. The motivation behind response bias depends on positive impression management and negative impression management. Positive impression management (PIM) is defined as not reporting the implicit tendencies that relate to negative attributes. Positive impression management is also known as “socially desirable responding”; “impression management”; “underreporting”. Negative Impression management (NIM) refers to answering questions in an abnormal manner that aim to present substantive indicators of negative attributes or show themselves as having some psychological problems. Negative impression management is also known as “faking bad”, “over reporting”. According to McGrath et al.’s investigation the studies that included objective criteria yielded a suppression or moderation effect of social desirability on criterion-related validities.

Personality questionnaires in particular and self-report measures in general are criticized because if participants are intended to generate a particular impression of them, they intentionally can fake their answers. In their meta-analytic study Ones and Viswesveran (1998) found that if participants were instructed to fake the personality test, subjects can enhance their scores by over .50 standard deviations on personality measures. Krahe, Becker, and Zöllter (2008) examined whether or not response distortion occurs without explicit instructions in the light of a specific personality profile that is necessary for being admitted to a specific job. They found that participants unintentionally distort the response on the personality questionnaire according to the demand characteristics of simulated job requirements without any explicit faking instruction. Moreover, they claimed that standard personality scales such as the NEO-PI-R could be easily distorted to the extent that examinees can perceive the required qualifications of the test-taking situation. In their study, they designed two experiments in which they made extraversion a salient personality
characteristic in the test condition by demonstrating a film and a text priming “extraverted” characteristics. In these studies they utilized the job description of a journalist as the stimulus. They found that exposure to an “extraverted-prime” enhanced self-ratings of extraversion in comparison to the no-prime control condition. In addition, no such rating distortion was observed for the other four personality factors of agreeableness, neuroticism, openness and conscientiousness. To sum up, individuals presented themselves more extraverted in the personality scales when they were exposed to a situational cue that activated their extraversion-related schemas. According to Krahe and Hermann (2003) similar unintentional response distortion primed by the situation was replicated in another study focusing on the conscientiousness factor.

Stark, Chernyshenko, Chan, Lee, and Drasgow (2001) compared scores on the 16 PF scales across samples of job applicants and non-applicants. They found that the distributions of scores for the applicant group were shifted towards the higher end for the subscales of conscientiousness and emotional stability as compared to the non-applicant group. Differential item functioning (DIF) analysis also revealed differences on the ‘location’ parameter across the applicant and non-applicant groups. They found that individuals who apply for a job scored higher on Conscientiousness and Emotional Stability personality scales which generally correlate positively with job performance.

Furthermore, Densten and Sarros (2012) investigated the relationship between impression management and leadership behaviors in 635 Australian CEOs. They showed that leaders responded to the self-report leadership scales in a socially desirable way and in order to test their claim, they distributed self-report Transformational Leadership Inventory and Leader Reward and Punishment Questionnaire to measure self-reported leadership behaviors and the Marlowe-Crowne Social Desirability Scale to measure social desirability. Results revealed that self-deception and impression management significantly predicted self-reported leadership behaviors. Self-deception was a unique predictor for the self-reported leadership behaviors related to fostering the acceptance of group goals, providing an
appropriate role model, intellectual stimulation, providing individual support and contingent reward (β range = .10 to .14). Also, impression management scores significantly predicted three self-reported leadership behaviors, which were fostering the acceptance of goals, providing individual support, and contingent punishment (β range = .09 to .19).

To conclude, self-report assessments have some validity and reliability problems and in order to solve these problems some implicit assessment methods have been developed to measure individual differences and used in organizational contexts. Two of these methods The Thematic Apperception Test assessing motives and Conditional Reasoning Tests (CRT) are described below together with a review on the format and validities of CRT questions.

1.9 Implicit Personality and Assessments

Generally, it was assumed that social behaviors operate under conscious control but now so much evidence supports the claim that social behavior generally involves activity with an implicit or unconscious manner (Greenwald & Banaji, 1995). Greenwald and Banaji (1995) defined implicit cognition as an implicit construct (e.g. Attitude) which is the introspectively unidentified (or inaccurately identified) trace of past experience that mediates a response. They also claimed that implicit cognitions and self-reported (conscious or explicit) cognition are different from each other. In order to measure these implicit cognitions, indirect measurements are theoretically necessary because indirect measurements do not inform the applicants of what is being assessed (Greenwald & Banaji, 1995). McClelland, Koestner and Weinberger (1989) claimed that implicit motives are not under the control of our cognitive processes; they are more primitive in nature and emerge from affective experiences, whereas self-attributed motives are under our conscious control and they are open to being evaluated cognitively. The implication is that assessing implicit motives would avoid response distortions in personality assessments.

Thematic Apperception Test (TAT; Morgan & Muray, 1935) is a projective test in which the person is presented with a set of pictures and asked several
questions that would lead the person to make up stories. The person makes comments for each picture by writing stories and then the examiner evaluates each picture to determine the dominant motive. The TAT has been extensively used to assess the implicit needs of achievement, power, and affiliation (McClelland & Boyatzis, 1982; Van Emmerik, Gardner, Wendt, & Fischer, 2010). However, the meta-analytic review by Spangler (1992) yielded a small criterion-related validity ($\rho = .17$). Another criticism to using TAT is its scoring as it depends on the practioner’s subjective evaluations and the time it takes to administer and score (Jacobs & McClelland, 1994).

In sum using explicit self-report personality assessments are prone to response distortion and projective tests such as the TAT yield small validities, comparable to those of self-report assessments which render the time consuming use of TAT inefficient. In the current study, the Conditional Reasoning Test (CRT; James, 1998) approach of assessing implicit motives, which has yielded larger validities as compared to self-report measures or the TAT, is proposed as a means to assess potential transformational leadership. The CRT is discussed in the following section.

1.10 Conditional Reasoning Test Approach

According to James (1998) people are motivated to know that their choice of behaviors are justified, rather than being irrational and so people try to justify their behaviors and give supportive explanations to their behavioral choices by using various reasoning strategies. The reasoning processes people employ are known as justification mechanisms (JMs). JMs can be used to capture people’s dispositional inclinations. The choice of a behavior is generally the product of implicit motives such as the motive to achieve and people with different motives use different JMs to rationalize their behavior. James and Mazerolle (2002) claimed that justification mechanisms are shaped by implicit biases that help people to shape, define, and give meaning to their perceptions, evaluations, considerations and expectations in order to adapt to their environment.
According to James (1998), people with different dispositional characteristics show different reactions. For example, some people are motivated to achieve and some people are motivated to avoid failure. According to their motivation they show different JMs. The differential reasoning process which is conditional on their underlying motives is called “conditional reasoning”. To sum up Conditional Reasoning test is a new instrument that is used to understand underlying latent motives by assessing the particular beliefs (JMs) that individuals use to rationalize or justify their choice of behaviors.

1.10.1 Format of the CRT

The format of the test was proposed by James (1998) and the main idea of the test is capturing the JMs of the underlying motive in question by engaging the test taker in a reasoning process (i.e. aggression, achievement motivation). CR questions are a type of inductive reasoning problem in which subjects are asked to arrive at a conclusion from a set of options.

In general, CR questions are posed as inductive reasoning problems which have four alternative answering options. One of the options is related to the justification mechanism of the related construct such as achievement motivation. Another option is related to the justification mechanism of the opposite end of the related construct such as fear of failure or a logical option which does not indicate any JM. The last two options are illogical response alternatives. When respondents try to identify the rational and irrational statements, they assume that they use their inductive reasoning skills however; in fact their reasoning is guided by their implicit assumptions which also represent their motivational tendencies and personality (James, 1998; James, McIntyre, Glisson, Bowler, & Mitchell, 2004). An example of a CR question measuring aggression is shown below. People who select Alternative D in this example tend to distrust powerful entities, which represents a cue for aggression as this alternative relates to the JM of hostile attribution bias.

James (1998) also proposed a scoring system for CRT questions in which participants are given +1 for their choices tapping into the JM that measure a particular motive (e.g. aggression) and -1 for choosing choices tapping into the JM
that measure the opposite of the target motive (e.g. prosocial). Illogical choices receive a score of zero. Scores on all questions are summed and high scores indicate higher levels of the assessed motive (e.g. aggression) (James & Mazerolle, 2002).

**Table 3: Illustrative Conditional Reasoning Questions for Measuring Aggression (James, McIntyre, Glisson, Green, Patton, LeBreton, Frost, & Russel, 2005):**

<table>
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<tr>
<td>American cars have gotten better in the past 15 years. American carmakers started to build better cars when they began to lose business to the Japanese. Many American buyers thought that foreign cars were better made. Which of the following is the most logical conclusion based on the above?</td>
</tr>
<tr>
<td>A. America was the world’s largest producer of airplanes 15 years ago.</td>
</tr>
<tr>
<td>B. Swedish carmakers lost business in America 15 years ago.</td>
</tr>
<tr>
<td>C. The Japanese knew more than Americans about building good cars 15 years ago.</td>
</tr>
<tr>
<td>D. American carmakers built cars to wear out 15 years ago so they could make a lot of money selling parts.</td>
</tr>
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1.10.2 Validities of the Conditional Reasoning Measures

LeBreton, Barksdale, Robin, and James (2007) reported that compared to traditional self-report questionnaires that aim to directly measure explicit (conscious) self-perceptions, the conditional reasoning test aims to measure implicit (unconscious) biases arising from various latent motives. Several CRTs have been developed to assess the construct of achievement motivation, aggression, and leadership which are important for organizations. Furthermore, in those studies, the underlying justification mechanisms for these constructs have been detected and measured. The following sections present information on these measures, their JMs and criterion-related validity evidence.

The first application studies of the Conditional Reasoning approach aimed to measure the dispositional component of relative motive strength (RMS) which was defined as the strength of the motive to achieve in relation to the strength of the motive to avoid failure. The main purpose of the RMS assessment system is
measuring whether or not achievement motivation transcends or suppresses the motivation to avoid failure and this assessment is done by identifying what kind of justification mechanisms people have for approaching achievement-oriented objectives or avoiding achievement oriented objectives. In other words if a person tends to find logical appeals which enhance the justification of approach over avoidance, we can say that this person’s achievement motivation dominates avoidance motive and vice-versa (James, 1998).

James (1998) used CRT-RMS and American College Testing (ACT) exam which is a kind of critical intellectual skills test to predict mean test scores which indicated whether a student passed or failed the course. Results showed that the correlation of CRT-RMS and ACT was high \( r = .49 \). When the mean course test scores were regressed on the two predictors it was found that ACT accounted for 61% variance in the test scores and RMS was responsible for an additional 39% variance in academic test performance. Thus, CRT-RMS was shown to have an important unique and significant contribution in the prediction of academic performance over and the above cognitive abilities. Furthermore, the implicit CRT did not correlate significantly with its conceptual self-report counterparts of WOFO (Work and Family Orientation Scale assessing achievement orientation) and Test Anxiety with correlations of .12 and -.08, respectively (James, 1998). The bifurcation of implicit and explicit measures of the same construct is known as the dissociation hypothesis (James & Mazerolle, 2002).

The CRT-RMS Test questions were developed in the light of six primary justification mechanisms for achievement motivation, identified in the literature by James’s (1998), which were personal responsibility inclination, opportunity inclination, positive connotation of achievement striving, malleability of skills, efficacy of persistence, identification with achievers. The definitions of Justification Mechanisms for achievement motivation are presented in Appendix A.

Bergman, McIntyre, and James (2004) investigated the aggressive behaviors in work settings by focusing on people’s attempts to rationalize their hostile behaviors, via Conditional Reasoning Test of Aggression (CRT-A). This test
developed by James and McIntyre (2000) included 22 CR questions and these questions were developed according to the seventh grade reading level. CR questions based on a “verbal-visual” version was called VCRT-A. VCRT-A questions were developed according to reading level of fifth to sixth grade. In this scale CR questions are shown both verbally and written on television, also photographs and written formats are represented together (James & Mazerolle, 2002). The test was developed in the light of James’s (1998) six primary justification mechanisms for aggression which were hostile attribution bias, derogation of target, implicit harmful intent, victimization by powerful “others”, potency bias and anti-social reasoning bias.

Bing, Stewart, Davison, Green, McIntyre, and James (2007) used both implicit and explicit assessment methods for measuring aggressive behaviors. In order to measure implicit aggression, they used the nine-item version of the VCRTA and to measure explicit aggression they used the Angry-Hostility facet of the NEO-PI-R. According to the results of the study, VCRTA did not correlate significantly with the self-report aggression scale ($r = .05$) which means conditional reasoning explains the implicit component of aggressive personality, but it does not capture the explicit view of one self as assessed by self-report scales of the same construct. Furthermore, according to the moderated hierarchical multiple regression analyses, implicit and explicit aggression scales interacted in significantly predicting counterproductive behaviors such as traffic violations and active organizational deviance. In other words, when scores on the explicit aggression scale and scores on the implicit aggression scale were both high, counterproductive behaviors were observed to be highest. When explicit aggression test scores were high but implicit aggression test scores were low a decrease was observed in counterproductive behaviors. So, it can be claimed that the implicit scales (e.g. CRT) captured observed behaviors better than explicit scales.

Furthermore, in James, McIntyre, Glisson, Bowler, and Mitchell’s (2004) study which emphasized empirical validation of CRT-A, it was found that patrol officers with high scores on CRT-A, also had lower scores on performance ratings ($r$
Temporary workers who had high scores on CRT-A were seen as unreliable ($r = .43$) and nuclear facility operator and package handlers who had high scores on CRT-A also reported high absenteeism with correlation coefficients of .42 and .34 respectively. Correlations reported for CRT-A which are approaching strong effect sizes are uncorrected observed correlations. The definitions of Justification Mechanisms for aggression are presented in Appendix B.

### 1.11 Conditional Reasoning Measurement System for Leadership

CRT-L is a recent instrument used to measure implicit motives and traits related to leadership (James & LeBreton, 2011). According to James and LeBreton (2011) people who have high aggression motivation take on the role of a toxic leader who behaves unethically to their followers and gives importance to self-interests. However, the same study also claimed that aggression expressed towards achieving organizational goals could be a key trait for successful leadership. They also investigated the effects of the power motive in predicting effective leadership and define the justification mechanisms of power motivation. To sum up, power and aggression were found as related implicit motives and the researchers tested these motives with CRT-L which included 25 multiple-choice inductive reasoning questions. The definitions of all the Justification Mechanisms for leadership are presented in Appendix C.

The early version of CRT-L yielded promising results. James and LeBreton (2011) tested CRT-L in 101 managers and assistant managers in a large retail company and initial validities were found as .44 for monthly store sales and .46 for monthly store profit. Wright (2011) studied the CRT-L in samples of psychology students and MBA students but the results of the study showed inconclusive results. Participants nominated three of their classmates for one of the categories of leadership, being powerful, or being a toxic leader. According to the results of the study, the correlation between CRT-Leadership scale and leader peer nomination (LPN) ($r = .37$) and peer power nomination (PPN) ($r = .38$) were only significant in the psychology student sample. Furthermore, the same results were obtained for the CRT-Power subscale such that correlations between CRT-L Power scale and LPN ($r$
= .43) and PPN (r = .46) were significant only in the psychology student sample. Non-significant correlations in the MBA sample approached zero with the exception of the CRT-L and LPN association (r = .19). Furthermore, non-significant correlations were found between CRT scales and toxic leader nominations (TPN).

1.11.1 Rationale for Developing a CRT Measure for Assessing Transformational Leadership and Related Justification Mechanisms

CRT measures assessing aggression and achievement motivation have promising validities in the literature. However, the current CRT-L by James showed inconsistent associations with criteria across samples. Moreover, the content domain of leadership was narrow-focused; James and LeBreton (2001) focused only on the motives of power and aggression. In the present study, I aimed to assess a wider scope of underlying motives that would be indicative of transformational leadership. The Conditional Reasoning Test for transformational leadership (CRT-TL) included the related justification mechanisms of power motive that James included. Furthermore, the motives for activity inhibition, exhibition and change which are related transformational leadership motives as identified in the literature formed the basis of the assessment. Related JMs of all these motives are described in the following section.

According to the literature reviewed and the critical incident results that are mentioned under the Methods section, I deducted that power, activity inhibition, change and exhibition are related justification mechanisms of transformational leadership. The first motive is power which was investigated by Mclelland and Burnham’s (1976) Leadership Motive Profile and James and LeBreton (2011). They claimed that effective leaders have a desire to act powerful and they show this motive by acting in leadership positions. James and LeBreton stated that Power Attribution Bias, Agentic Bias, Social Hierarchy Orientation Bias and Leader Intuition Bias are the justification mechanisms of the Power Motive. Social Hierarchy Orientation Bias and Leader Intuition Bias were not specifically related to transformational leadership, they were more related to the authoritative leader. Agentic Bias and Power Attribution Bias were determined as the related justification
mechanisms of the power motive of transformational leadership.

The second motive is Activity Inhibition which was investigated by McLelland and Burnham’s (1976) Leadership Motive Profile. They stated that leaders who had high activity inhibition placed importance on group performance, and not on personal performance and tried to achieve organizational goals by following rules and procedures rather than being concerned with their personal goals. In the light of these literature findings, it was assumed that activity inhibition is a related motive of transformational leadership in the present study.

The third motive is Change which is determined by the researchers in the light of the personality studies of the transformational leadership. In the personality and trait studies of leadership, it could be seen that transformational leaders not only try to lead their followers but also they try to make the conditions better for followers’ own sake. Also, efficacy and personal responsibility inclination bias, positive connotation of change and identification with change initiators were determined as the justification mechanisms of the change motive in the light of studies by Bindl and Parker (2010) and the theory of Schwarts (2012). All these studies emphasize the importance of the Change motive in order to be successful individuals in the work settings.

The final motive is Exhibition which is also determined by the researchers according to the personality studies of transformational leadership. In the literature, it was indicated that people who have self-confidence and a desire to exhibit themselves in a group, show themselves up as a leader, try to make an impression and try to be seen and heard in order to make their subordinates follow them. Such individuals have high personal energy and use this energy to enthrall the followers with the exhibition motive. The JM of the related constructs are shown in Table 4.

The aim of the present study was to generate a new CRT-TL scale and test this scale with a sample of employees in leadership and non-leadership positions in organizations. The validity of the newly developed scale was investigated through the criteria of occupying a leadership position or not and followers’ perceptions of their leaders’ transformational leadership styles. In the development of the CRT,
questions were formed on a theoretical and rational basis. Questions to be retained in the test were determined with a criterion-keying approach by correlating leadership position and follower perceptions with each of the CRT questions as this is an initial examination of the test’s validity. Thus, the investigation proceeded through research questions rather than specific hypotheses. Hence, the first research question was “Does leadership proclivities assessed with the newly developed CRT predict being in a leadership position or not?”

Due to the expected dissociation between explicit and implicit measures, the construct validation of the new measure was studied by correlating the newly developed CRT with follower perceptions. According to Connelly and Ones (2010) others’ ratings provide superior validities (corrected r’s = .18 to .69) as compared to self-ratings (corrected r’s = .00 to .31) in the prediction of academic and job performance. Thus, the construct validity of the CRT was investigated through subordinates’ evaluations about their leaders and the second research question was “Does transformational leadership proclivities assessed with the newly developed CRT predict follower perceptions of their leaders’ level of transformational leadership?”

Finally, as the self-report counterparts of motivation to lead and transformational leadership, and the theoretically-related personality factors were shown to predict leadership in the literature (Avolio, Bass, & Jung, 1999; Bono & Judge, 2004; Kark & Dijik, 2007), these variables were also entered into the equation to study the third research question: “How does the newly developed CRT compare to already existing predictors of leadership and transformational leadership?”
Table 4: Transformational Leadership and Related Justification Mechanisms

<table>
<thead>
<tr>
<th>Transformational Leaders</th>
<th>Non-Transformational Leaders</th>
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<tbody>
<tr>
<td><strong>Agentic Bias:</strong> When attempting to think rationally and objectively about strategic decisions, POs instinctively take the perspective of the agents or initiators of actions. Consequently, their thinking often evidences a propensity to confirm (e.g., build logical support for) the agents’ ideas, plans, and solutions. These ideas, plans, and solutions are viewed as providing logically superior strategic decisions. The key to the Agentic Bias is the perspective from which people frame and reason. POs instinctively look down; that is, they identify with the people (like themselves) who reside in management positions, create strategic plans, and then lead others to carry out the plans. In the perspective of the transformational leadership, TLs analyze who is the influential, capable, successful and strong party in a strategic situations and then TLs identify themselves with these type of people.</td>
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<tr>
<td><strong>Non-Agentic Bias:</strong> People with weak or nonexistent power motives, whom we will refer to as “NPs,” instinctively look up. When thinking about strategic decisions, they take the perspectives of those lower in the organization, who are affected by the decisions and actions (James, &amp; LeBreton, 2011).</td>
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<tr>
<td><strong>Power Attribution Bias:</strong> Reasoning with this bias reflects a predisposition to logically connect the use of power with positive behavior, values, and outcomes. Acts of power are interpreted in positive terms such as “taking initiative”, “assuming responsibility”, and being “decisive”. These same acts are logically associated with positive outcomes, such as organizational survival, stability, effectiveness, and success. The powerful are viewed as talented, experienced, and successful leaders. In like manner, successful leadership is rationally attributed to the use of power. The Power Attribution Bias stands in contrast to the tendency of society, including a great many NPs, to correlate the exercise of power with entitlement, corruption, and tyranny. More specifically, the power motive is held culpable for (a) placing personal gain ahead of group welfare, (b) the seeking of influence simply in order to dominate others, (c) the willingness to use threat and coercion in order to gain power, status, and entitlements, and (d) the building of organizations ruled by narcissistic tyrants who oppress, exploit, and victimize subordinates and employees.</td>
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<tr>
<td><strong>Non-Power Attribution Bias:</strong> NPs who make attributions that those seeking power are dishonest or corrupt believe their framing and analyses are logical and rational. POs on the other hand are predisposed to infer that seeking power is necessary for the survival of the collective and the achievement of important goals. Basically, POs desire to engage in power clearly places them on the defensive in a climate that tends to frame power in derogatory terms. Justification mechanisms such as the Power Attribution Bias are needed to give POs ostensibly objective and rational reasons for engaging in acts of power (James, &amp; LeBreton, 2011).</td>
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### Table 4: Transformational Leadership and Related Justification Mechanisms (Continued)

<table>
<thead>
<tr>
<th>ACTIVITY INHIBITION</th>
<th>Transformational Leaders</th>
<th>Non-Transformational Leaders</th>
</tr>
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<tbody>
<tr>
<td><strong>Activity Inhibition:</strong></td>
<td>Try to achieve organizational goal by following rules and procedures rather than concerning their personal goals. People with this motive have self-control and in any crisis situations, they do not think about themselves but about the welfare of think their followers and try to enhance followers input.</td>
<td><strong>Non-activity Inhibition:</strong> People who have low activity inhibition motive would choose choices and actions that would enhance their own gains and find it reasonable to use all resources in order to make themselves favorable.</td>
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<tr>
<td><strong>Efficacy and personal responsibility inclination bias:</strong></td>
<td>People frame change as possible, and that the self/ coworkers/ work unit does have the resources for successful change. Such people assumes responsibility for change and positively frames the opportunity as one that can be controlled with personal initiation and persistence in demanding situations.</td>
<td><strong>Non-Efficacy and lack of Personal Responsibility Bias:</strong> Frame change as a difficult, non-controllable process and such people frames the possibility of change as something that can be pursued by others and does not assume responsibility (e.g. it is not responsibility, I do not need to care about it).</td>
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<tr>
<td><strong>Positive connotation of change:</strong></td>
<td>Frame change as a chance to improve rather than a risky endeavor. Change is associated with improving, gaining competitive advantage, braveness, and intelligent, whereas conservation is viewed as being restrained, non-improvement, and remaining indifferent to issues in the work unit, institution, or group. Also such people show Positive connotation of excitement that they prefer enthusiasm and stimulation over contentment in which work, action, and challenge are involved in feeling happy.</td>
<td><strong>Negative connotation of change:</strong> Frame change as a risk in terms of economic outcomes or a threat to harmonious relationships. Wants to conserve procedures, relationships, and traditions as they are because views stability as secure. Change is associated with unfavorable terms like risky, uncertainty (fear of the unknown), unorthodox, unruly, whereas stability is views as rule-consciousness, security. Also, such people show Positive connotation of contentment that they prefer to be happy without any action or challenge. See status quo, conformity and passiveness (not rocking the boat) as the roads to contentment.</td>
</tr>
<tr>
<td><strong>Identification with change initiators:</strong></td>
<td>People with the change motive identify with such initiators and frame them as being brave, powerful, admirable. A leader with such a motive would welcome suggestions from subordinates and frame their initiations for change as positive.</td>
<td><strong>Lack of Identification with change initiators Bias:</strong> A leader with no real change motive may see suggestions for change coming from subordinates as a threat.</td>
</tr>
<tr>
<td><strong>Exhibits:</strong></td>
<td>Try to make an impression and to be seen and heard in order to make their subordinates to follow them. Such people excite, amaze, fascinate, entertain, shock, intrigue, amuse or entice their followers. People with high exhibition motive try to make their subordinates to believe themselves. They have high personal energy and they use this energy to enthral the followers.</td>
<td><strong>Non-Exhibits:</strong> People with low exhibition tend to be more reserved and less outspoken. Also people with this motive view as shy, quite, acquiescent, calm and who have low self-confident.</td>
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CHAPTER II

METHOD

In the current study, scale development and validation were conducted through three phases. The first phase was the initial development of the CRT which included identifying paragraph questions with multiple response options that would indicate two rational (one with a leadership JM and one with an opposite JM or lack of it) and two irrational choices. Development of questions involved two methods which are described below: 1) identification of literature passages and historical events that could be transformed into a question with JM alternatives, 2) collecting critical incidents to identify the behavioral expressions of justification mechanisms related to transformational leadership (Pre-Study 1). Each method is conveyed under the section on development of the CRT.

The second phase was conducted in order to gauge the construct validity of the CRT assessed through cognitive labs (O’Shea, Driskell, Goodwin, Zbylut, & Weiss, 2004) with participants who were in leader and non-leader positions (Pre-Study 2). The third phase was conducted to study the research questions in terms of the validity of the CRT as compared to self-reports measures, as they relate to occupying a leadership position and follower perceptions (Main Study).

2.1 Development of the CRT

2.1.1 Identifying CRT Stems from Literature Exam Questions and Factual Information

Several question stems were developed from the website in which Turkish literature passage questions were located. These Turkish literature passages were used to assess high-school students’ Turkish language skills. The related passages were detected from there and then not only passages but also response options were modified according to the related justification mechanisms of Transformational Leadership. Moreover, some of these questions were Turkish literature passage questions which were used by ÖSYM (Student Measuring, Selection and Placement Center in Turkey) in the past years and they were also modified. Some of the inductive reasoning passages were developed with the help of Wikipedia.com from
which information about factual events or people were used as the input to stimulate attributions using justification mechanisms. (http://www.dilforum.com/forum/archive/index.php/t-11388.html, http://www.turkceceler.com/paragraf-bilgisi-test-sorulari.html, http://dokuman.osym.gov.tr/pdfdokuman/2013/OSYS/24.03.2013%20YGS.pdf, http://www.edebiyatogretmeniyiz.com/paragraf-55-cikmis-sorular.html). Moreover, the other CRT questions were generated from critical incidents that was described in the Pre-study 1.

2.2 Pre-Study1: Collecting Critical Incidents

Collecting critical incidents was the first step of the current study. The method of critical incidents is both a reliable and valid technique that is used to create a comprehensive and detailed description of the typical performance by collecting specific and important behavioral facts (Flanagan, 1954 & Woolsey, 1986). In the present study, the aim of collecting critical incidents was twofold: 1) to create several CRT question stems (paragraphs) with events reflecting organizational affairs that people in leadership positions have to tackle, 2) to determine behavioral expressions of the underlying motives of transformational leadership that would serve in the formulation of question sets.

2.2.1 Participants

The participants of the study were 15 leaders (six women and nine men) who worked in different professional areas in both in public and the private sector organizations. All of them were influential leaders in their specific professions. Their educational levels ranged from holding a bachelor's degree to a PhD degree. Participants’ age ranged from 28 to 60 years with work experience ranging from seven to 40 years.

2.2.2 Instruments and Procedure

Convenient sampling was applied in order to reach people who occupied a leadership position. Leaders participated in an interview voluntarily. Before conducting the interview, the aim of the study was clearly explained and the participants provided their consent. The interviews took approximately 20 minutes.
The interview sheet contains eight questions that were designed to ask participants their leadership performance. In the first part of the interview, participants were asked to think about a specific situation in which his/her leadership performance was successful and also, if their followers thought the same way. In the second part of the interview, participants were asked to think about a specific situation, this time in which his/her leadership performance was not successful and also, if their followers thought the same way. Following questions posed were: “What was the situation?” “Under which circumstances did the situation take place”, “How did your followers respond and what did they say?”, “What makes you think this interaction with the followers was successful/not successful?” The interview form used to obtain critical incidents is shown in Appendix D.

2.2.3 Results

Thirty critical incidents were content analyzed. Each interview was analyzed in details. The important and related cases were detected and these cases were used in the CRT development procedure by changing the name of the participant, company and professions. For example, in an interview one participant said that “according to the promotion procedure of the company, employees who worked less than 5 years in the company would not be promoted. However, last year some staff were promoted who had worked in the company less than 5 years and this situation bothered some employees who had not been promoted and worked more than 5 years. There was a decrease in their motivation and this situation affected their performance so I organized a private meeting with each employee who were in that situation. We revealed their strengths and weaknesses and we planned a special training program for each person. I shared this plan with the Human Resources Department and some of the training expenses were paid by the company. This situation motivated my personnel and they were more passionate about their job.” This real job experience was transformed into a CRT question:

“According to the promotion procedure of the Company X, if there is a vacant position, employees who worked 5 years or more are automatically promoted. But this year some employees with less than 5 years of experience
were promoted whereas some employees with more than 5 years of experience were not promoted. The negative atmosphere arising from this situation was noticed by the manager and he successfully managed to overcome it by arranging one-to-one interviews and creating action plans which allowed a more peaceful working environment again.”

Which conclusion can be derived about the manager in the above text?

A) He convinced the employees that they are valuable to the company. (Non-agentic Bias)

B) Current problems were caused by the decisions that are taken during the employing. (Illogical)

C) He seeked for an effective way of convincing the employee about the management’s decisions. (Agentic Bias)

D) The lack in the mid-level management staff is weakening the management-employee relations. (Illogical)

One other example response from interviews was like the following: “I was the leader of a project group and we were responsible for completing a new project within one month. However, when I checked through the process, I realized that the team had worked very slowly without any reason and the same situation was experienced before. So, I decided to take control of the case and approved to punish the responsible employee to avoid future situations by cancelling the monthly premium.” This real job experience was transformed into a CRT question:

Ahmet realized the team reached a stage of the project in 30 days that was planned to be finished in 10 days. He decided to punish his team by cancelling the monthly premium as the team was repeating their mistakes about the time management.

Which conclusion can be derived about the manager in the above text?

A) Procedures and principles of employing children under the age of 16 should be reviewed. (Illogical)

B) These problems are caused by the inequality between the number of male and female employees. (Illogical)
C) Ahmet applied his management initiative since the employees failed to meet the expectations. *(Power Attribution Bias)*

D) Ahmet punished the employees before examining the causes of the malfunctions in team management. *(Non-Power Attribution Bias)*

As a result, out of 27 CRT questions, 10 inductive reasoning passages were developed in the light of critical incidents, 12 inductive reasoning passages were developed in the light of the web sites, and finally five questions were generated in the light of researchers’ experiences.

**2.3 Pre-Study2: Construct validation of CRT**

After developing question sets, the second phase was testing the construct validation of the newly developed CRT and construct validation of CRT was assessed through cognitive labs (Study 2). Cognitive lab is a kind of verbal protocol analysis that is used for item revision procedure. Cognitive lab sessions include participants who have different backgrounds from each other and these people declare their opinion about the items of the scale during the cognitive lab (O’Shea et al., 2004). The aim of these cognitive labs was to assess whether or not each item activated implicit assumptions that were relevant to the construct and once activated, whether or not the implicit assumptions guided which response option appeared most reasonable. According to the results of the cognitive lab studies, all questions were revised and the revised CRT questions were examined by three academicians in the Industrial and Organizational Psychology field in order to assess the new question set’s construct validation.

**2.3.1 Participants**

First cognitive lab included eight professionals, five of them were working in a leader position and three of them were working in a follower position. Their educational level ranged from bachelor's degree to PhD degree and the participants’ age ranged from 30 to 50 years with a work experience that ranged from three to 27 years. Four of the participants were women and four of the participants were men. Second cognitive lab included six graduate students and five research assistants.
specializing in Industrial/Organizational and also in Social Psychology. Seven of them were women and four of them were men.

2.3.2 Instruments and Procedure

The 27 CRT questions were divided into two sets to be distributed to different groups of participants so that participants would not experience cognitive fatigue. One set included 13 questions and the other set included 14 questions. Participants were divided into two groups and each session included four participants. In the first session four people (two in a leader position and two in a follower position) worked on 14 questions. In the second session four people (three in a leader position and one in a follower position) worked on 13 questions.

In all sessions, question sets were distributed to participants for them first to answer the CRT questions. After everyone finished working on the test, the researcher handed out the questions that would probe participants to articulate why they selected a particular response. This was done for each question. Specifically, they were asked why they selected their chosen option for the particular question. Also, for the second logical response that was not chosen, test takers were asked why they did not select that particular response. In addition they were asked whether they thought someone might choose that option even though they themselves did not choose it and what would such people need to assume to have that option appear reasonable. These questions were based on the cognitive lab procedure developed and recommended by O’Shea et.al. (2004). Researchers took note of all responses.

The same procedure was applied to the graduate student group of six and the research assistant group of five. Fourteen questions were investigated by graduate students and 13 questions were examined by research assistants. Each cognitive lab session took approximately two hours. The interview form of the cognitive lab studies are shown in Appendix E.

2.3.3 Results

After all these cognitive labs, all responses were taped and the frequencies of the responses were analyzed (See Appendix F and G) and modifications were done to the CRT questions according to the participants’ reactions to the questions. For
example, if participants said that they could not derive any answer from the passage, then researchers changed the response options. Moreover, if participants who were in a leader position selected the answer which did not include any bias, then these leaders were asked why they selected that particular choice instead of the other choices. According to their statements, response options were examined in light of JMs and expected motives, and modified by the researchers when deemed plausible. Also the same procedure was followed for non-leaders. If participants who were in a non-leader position selected the answer which did not include any bias, then they were asked why they selected the particular choice instead of the other choices. Also, some respondents stated that, some question passages were too long and they could not concentrate on the question and in the light of their statements, some questions were shortened.

After that, 27 questions were examined by three I/O Psychologists. They were provided with detailed definitions for each bias and they were asked to read each bias and its’ justification mechanisms and then read the question sets with their response options. They were asked to state whether or not each question and response options measured the related bias and write their comments for each question.” The last modifications were done in the questions according to their suggestions. Altogether, researchers conducted six meetings and after all these meetings, researchers dropped one question and made some revisions on 25 questions.

2.4 Main Study

2.4.1 Participants

Data were collected from 81 managers/leaders and 153 subordinates/followers. Out of 81 leaders, 24 of them were women and 57 of them were men. Also, three of them graduated from high school, two of them graduated from 2 year collage, 41 of them had a bachelor degree, 35 of them had master’s and PhD degrees. The age of the leaders ranged from 22 to 58 (M = 37.93, SD = 8.11). Out of 153 subordinates, 65 of them were women and 88 of them were men. Furthermore, seven of them graduated from high school, six of them graduated from two year collages, 97 of them had a bachelor degree, 42 of them had master’s and PhD degrees. The age
of the subordinates ranged from 20 to 52 ($M = 31.55$, $SD = 7.02$). Out of 81 leaders, 15 leaders worked in a company size between 1-50, 17 leaders worked in a company size between 51-250, four leaders worked in a company size between 251-500, and 45 leaders worked in a company with more than 500 employees. Out of 66 leaders, six of them reported to be responsible for one to three subordinates, 19 of them were responsible for four to six subordinates, 10 of them were responsible for seven to nine subordinates and 31 of them were responsible for 10 and more subordinates. Finally, out of 66 leaders, 19 leaders reported that there was no leadership position under their position, 18 leaders reported that there was one leadership position under their position, 14 leaders reported two, nine leaders reported three, and six leaders reported at least four leadership positions under their position.

2.4.2 Procedure

The surveys were distributed to 33 different private organizations including energy, traffic, health, finance, education sectors, automotive industry, pharmaceutical industry, defense industry, finance, software companies, consulting firms, and telecommunications companies in Turkey. All surveys were distributed in an envelope to ensure anonymity. Participants’ name and their supervisors’ name were not requested. The match of leader and follower question sets were accomplished with the coded envelopes, for example; first leaders’ envelope was coded as L1 and this leaders’ followers’ envelopes were coded as L1-1, L1-2, L1-3 and so on. Leaders’ question set included CRT, Multifactor Leadership Questionnaire 5X for Leaders (MLQ 5X; Avolio & Bass, 1995), the Big Five Inventory (BFI; Benet-Martínez & John, 1998) and Motivation to Lead (MTL; Chan & Drasgow, 2001). Subordinates’ question set included the CRT, MLQ 5X for Subordinates, BFI and MTL which are described in the next section.

2.4.3 Measures

2.4.3.1 Conditional Reasoning Test to Assess Leadership Proclivities

The newly developed Conditional Reasoning Test was used to measure the underlying motives of transformational leadership which are power, activity inhibition, change and exhibition. Furthermore, the power motive included two
relevant justification mechanisms that are agentic bias and power attribution bias. Also, the change motive included three justification mechanisms which were efficacy and personal responsibility inclination bias, positive connotation of change, and identification with change initiators.

The CRT had 26 questions with five measuring the power attribution bias, six measuring agentic bias, three measuring activity inhibition bias, six measuring exhibition, two measuring efficacy and personal responsibility inclination bias, two measuring positive connotation of change, and two measuring identification with change initiators. CR questions have four alternative answer choices. One choice includes a justification mechanism of the related motive and is scored with +1, one choice includes a justification mechanism of the opposite end of the related motive and is scored with -1 and finally the remaining two choices include illogical answers and are scored with 0 (James, 1998). Three sample questions are demonstrated in Appendix H.

2.4.3.2 Multifactor Leadership Questionnaire 5X (MLQ-5X) (Avolio, & Bass, 1995)

Multifactor Leadership Questionnaire 5X (MLQ-5X; Avolio & Bass, 1995) was used to measure transformational leadership. Mind Garden had the Turkish version of the MLQ-5X’s copyright, so copyright was purchased from Mind Garden in order to use this scale in the current study (See Appendix N). The MLQ-5X measures four dimensions of transformational leadership that are idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. The psychometric properties of the scale yielded positive results such as estimates of internal consistency reliabilities were above .70 for all scales and validities were investigated by Avolio, Bass, and Jung (1995). The construct validity of MLQ based on its factorial structure is reported in Avolio, Bass, and Jung (1999). Also, the Cronbach alpha for the overall MLQ scale was reported to be .86 (Muenjohn & Armstrong, 2008).

MLQ-5X includes 20 items rated on a 5-point scale ranging from ‘0 = not at all’ to ‘4 = frequently’. The leader and follower forms are independent from each
other. In the leader form leaders evaluated themselves. Sample questions for each of the dimensions are “I seek differing perspectives when solving problems,” “I talk optimistically about the future,” “I go beyond self-interest for the good of the group,” and “I spend time teaching and coaching.” In the follower form, followers evaluate their leader on the same scales. Sample questions for the scales are “Seeks differing perspectives when solving problems,” “Talks optimistically about the future,” “Goes beyond self-interest for the good of the group” and “Spends time teaching and coaching.”

2.4.3.3 Motivation to Lead (MTL) (Chan, & Drasgow, 2001)

Second self-report measure was the Motivation to Lead scale (MTL) which was used for understanding the relationship between individual differences and various leader behaviors (See Appendix L). The scale includes 27 items, nine of which measure affective identity which refer to personal desires to lead. Sample questions are “Most of the time, I prefer being a leader rather than a follower when working in a group,” “I have a tendency to take charge in most groups or teams that I work in.” Nine items measure motives related to personal gain. Sample questions are “I am only interested to lead a group if there are clear advantages for me,” “If I agree to lead a group, I would never expect any advantages or special benefits.” Finally, nine items measure social norms and expectations and form the social-normative scale. Sample questions were “I feel that I have a duty to lead others if I am asked,” “It is an honor and privilege to be asked to lead.” Items are measured on a 5-point scale which range from “Strongly Disagree” to “Strongly Agree”. Internal consistency reliabilities with alpha coefficients rsngrd from .65 to .91 and also validities were investigated by Chan and Drasgow (2001).

2.4.3.4 Big Five Inventory (BFI) (Benet-Martinez, & John, 1998)

The Big Five Inventory (Benet-Martinez, & John, 1998) measures the five personality dimensions of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. The measure has 44 items rated on a 5-point scale ranging from Strongly Disagree to Strongly Agree. Across all cultures, the internal reliabilities of the BFI scales ranged from .70 to .79 (Schmitt, Allik, Mccrae,
& Benet-Martinez, 2007). The Turkish version of the BFI which was translated by Sümer and Sümer (2002) and validated by Sümer, Lajunen, and Özkan in 2005 was used. Sample Questions are; “I see myself as someone who…” “Is talkative,” “Tends to find fault with,” “Does a thorough job,” “Is depressed, blue.” (See Appendix K).
CHAPTER III

RESULTS

The aim of the present study was to develop a new implicit instrument using the conditional reasoning approach in order to measure transformational leadership. In order to do this, the present study tried to answer the following questions. To study the criterion-related validity, it was investigated whether or not CRT predicted being in a leadership position or not. Construct validity of the CRT was investigated based on the relationship between CRT and follower perceptions of their leaders’ transformational style. Finally, the present study sought to answer how the CRT compares to already existing predictors of leadership and transformational leadership.

3.1 Data cleaning and screening

Before starting the analysis, all variables were examined for accuracy of data entering, missing data, and detecting any univariate and multivariate outliers. Missing cases were replaced with the series mean as they were less than 5% of the variable. For the missing cases of the CRT, mean replacements were not performed because the scoring of the test is not suitable for this; so instead of mean replacement, a score of “0” was given to the missing cases. Furthermore, to reveal outliers, first multivariate outliers were detected by Mahalanobis distance. One extreme case was detected and was deleted. After this operation, univariate outliers were detected by Z-scores and four cases were deleted.

3.2 Factor Analyses of the Scales, Descriptive Statistics, and Correlations

Before the investigation of the research questions, BFI, MTL and MLQ were factor analyzed. Principal Axis Factoring analysis was run with direct oblimin rotation for all scales. All scales were forced to extract the number of factors expected with respect to the literature. According to the results, items loaded under their respective scales, but certain exceptions were observed with some items theoretically developed for the BFI openness to experience and agreeableness factors and the MTL non-calculative and social normative factors. These items lowered the reliability of the scales so four items were deleted from openness to experience, two
items were deleted from agreeableness, one item was deleted from the MTL non-calculative factor and finally two times were deleted from the social normative factor. MLQ factors were formed according to its manual. CRT questions were not factor analyzed but the Kuder-Richardson (K-R) reliability based on polyserial correlations, in which each CRT question was coded as 1 (bias present) and 0 (bias not present), was found .62 for the entire set of 26 CRT questions. All CRT Questions were correlated with the variable indicating occupying a leadership position or not in order to retain the questions that provided the maximal differentiation between leaders and non-leaders. A decision was made to select items with correlations of .07 and higher as items below .07 typically displayed around null associations. Accordingly, out of 26 CRT questions, 17 of them had higher correlations than .07. Polyserial correlations with total test scores were high than .30 for these 17 items and lower than .30 for the remaining nine items which provided further justification for eliminating them. These 17 CRT questions were used to generate the CRT-Lead scale (CRT-L) and the KR-20 internal consistency reliability was found as .68. CRT-L included two power bias questions, five agentic bias questions, three change bias questions, five exhibition bias questions, and two activity inhibition bias questions.

Furthermore, the 26 CRT questions were correlated with subordinates’ perceptions of their leaders transformational behaviors based on the MLQ, because as mentioned before, the construct validation would be investigated by correlating the CRT with others’ ratings (Connelly & Ones, 2010). According to the results, 11 CRT questions correlated with subordinates’ MLQ evaluations of their leader’s transformational leadership style with correlations above .09. Also it was revealed that these 11 questions’ polyserial correlations with total test scores were high than .30. These 11 CRT questions were used to generate the CRT-Transformational Leadership scale (CRT-TL). CRT-TL included three change bias questions, two exhibition bias questions, four agentic bias questions, and two activity inhibition bias questions. It could be seen that although the CRT-L composite included two power attribution bias questions, the CRT-TL composite did not include any power
attribution bias questions. The mean, standard deviation, minimum, maximum, number of items of scales, number of people that responded to the scales and reliabilities are shown in Table 5.
### Table 5. Descriptive Statistics of Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
<th># of items</th>
<th># of people filled the test</th>
<th>A</th>
</tr>
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<td>5.16</td>
<td>-5.00</td>
<td>24.00</td>
<td>26</td>
<td>234</td>
<td>.62 (K-R)</td>
</tr>
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<td>4.34</td>
<td>-9.00</td>
<td>17.00</td>
<td>17</td>
<td>234</td>
<td>.68 (K-R)</td>
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<td>9.00</td>
<td>11</td>
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<td>5.00</td>
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<td>.77</td>
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<td>2.14</td>
<td>5.00</td>
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<td>MTL-Social Normative</td>
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<tr>
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<td>.66</td>
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<td>MLQ (L)-Overall</td>
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<td>.86</td>
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<td>MLQ (S)-Idealized Behavior</td>
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<td>0.50</td>
<td>4.00</td>
<td>4</td>
<td>168</td>
<td>.75</td>
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<tr>
<td>MLQ (S)-Intellectual Stimulation</td>
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<td>0.75</td>
<td>4.00</td>
<td>4</td>
<td>168</td>
<td>.78</td>
</tr>
<tr>
<td>MLQ (S)-Individualized Consideration</td>
<td>2.71</td>
<td>0.86</td>
<td>0.00</td>
<td>4.00</td>
<td>4</td>
<td>168</td>
<td>.82</td>
</tr>
<tr>
<td>MLQ (S)-Overall</td>
<td>2.81</td>
<td>0.73</td>
<td>0.50</td>
<td>4.00</td>
<td>20</td>
<td>168</td>
<td>.95</td>
</tr>
</tbody>
</table>

Notes. CRT: Conditional Reasoning Test (scores can range from -26 to 26); CRT-L: Conditional Reasoning Test-Leadership (scores can range from -17 to 17); CRT-TL: Conditional Reasoning Test-Transformational Leadership (scores can range from -11 to 11); MTL: Motivation to lead; MLQ (L): Leaders filled Multifactor Leadership Questionnaire; MTL: Motivation to lead; MLQ (S): Subordinates filled Multifactor Leadership Questionnaire.
When bivariate correlations of the study variables based on leaders’ self-ratings were analyzed, it can be seen that none of the CRT scales significantly correlated with any demographic information such as age, sex, education, number of subordinates that leaders were responsible for, total years of leading and firm size which means CRT scales’ scores were independent from respondents’ demographic characteristics.

Furthermore, in the current study, the followers’ evaluation about their leaders’ transformational leadership style were aggregated to test the construct validity of the scale and correlations of study variables based on leader’s self-ratings and aggregated follower ratings revealed that the social normative factor of MTL was significantly correlated with CRT-Transformational Leadership and CRT-Lead with correlation coefficients of .24 and .26, respectively but no significant relationship was found for the entire set of 26 CRT questions. MLQ subscales self-rated by leaders showed significant correlations with CRT scales. For example, 26-question CRT set significantly correlated with Idealized Behavior \((r = .29)\), Inspirational Motivation \((r = .25)\), Individualized Consideration \((r = .37)\), CRT-Lead significantly correlated with Idealized Behavior \((r = .32)\), Inspirational Motivation \((r = .29)\), Individualized Consideration \((r = .40)\) and finally CRT-TL significantly correlated with Idealized Attributed \((r = .28)\), Idealized Behavior \((r = .29)\), Inspirational Motivation \((r = .25)\), Individualized Consideration \((r = .32)\). However, intellectual stimulation did not reveal any significant correlations with CRT scales with the correlation coefficients ranging from .11 to .22. Similarly, although idealized influence showed a significant correlation with CRT-TL, there were no significant relationship between idealized attributed and 26 questions of CRT and CRT-Lead (See Table 6).
Table 6: Correlations of Study Variables Based on Leader’s Ratings and Aggregated Follower Ratings

<table>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>Leaders ratings*</td>
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<tr>
<td>1- Age</td>
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<td>2- Sex</td>
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<tr>
<td>3- Education</td>
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<td>4- # of subordinates responsible for</td>
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<td>5- Total years of leading</td>
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<td>6- Number of leader position (under)</td>
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<td>7- Firm size</td>
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<td>-.05</td>
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<td>8- CRT-26 Question</td>
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<td>-.22</td>
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<td>9- CRT-L</td>
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<td>.05</td>
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<td>.73**</td>
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<td>.02</td>
<td>-.12</td>
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<td>-.07</td>
<td>-.09</td>
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<td>-.12</td>
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<td>-.01</td>
<td>-.03</td>
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<td>.02</td>
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<td>-.07</td>
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<td>.11</td>
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<td>.08</td>
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<td>.04</td>
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<td>.39**</td>
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<td>-.27**</td>
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<td>-.03</td>
<td>.06</td>
<td>-.06</td>
<td>-.07</td>
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Table 6: Correlations of Study Variables Based on Leader’s Ratings and Aggregated Follower Ratings. (Continued)

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Notes: CRT: Conditional Reasoning Test; CRT-L: Conditional Reasoning Test-Leadership; CRT-TL: Conditional Reasoning Test-Transformational Leadership; MTL: Motivation to lead; MLQ: Multifactor Leadership Questionnaire; Agg: Subordinates’ evaluations about their leaders’ leadership style were aggregated; *p < .05, **p < .01
3.3 Investigation of the Research Questions

3.3.1 Criterion-related validation of CRT-L

Binary Logistic Regression analysis was performed to assess prediction of membership in terms of occupying a leader position or not on the basis of 17 questions of the Conditional Reasoning Test (CRT-L). Two -2 log-likelihood ratios were compared before and after iterations. First -2 log likelihood ratio which is 301.88 decreased to 264.71 when was CRT-L entered into the model. Addition of CRT-L to the model significantly predicted the probability of being in a leader position or not ($\chi^2 (1, 234) = 37.16, p < .001$). Hosmer-Lemeshow test was non-significant ($\chi^2 (8, 234) = 13.12, \text{ns}$) indicating that the data fit the model well. Twenty percent variance in being in a leader position or not could be explained by the CRT-L. The overall accurate classification rate was 74.8, which is higher than the by chance classification rate of 68.5 based on priors. When investigating the membership of being in a leader position or not, it was seen that CRT-L better predicted not being in a leader position (92.8%) than being in a leader position (40.7%). According to the result, CRT-L ($\text{Wald} = 29.81, (\text{Exp})B = 1.24, p < .001$) significantly predicted being in a leader position or not. The odds of being in a leadership position increased by 0.24 for every one unit of change in CRT-L.

Furthermore, hierarchical binary logistic regression was used to test the incremental prediction of CRT-L over conceptually equivalent self-reported motivation to lead-affective identity and the relevant self-report personality factors which were extraversion, openness to experience, conscientiousness and neuroticism in the prediction of leadership position. The two -2 log-likelihood ratios before and after entering the CRT-L were compared and according to the results, first -2 log likelihood ratio which was 263.61 decreased to 234.77. The model with the variables of motivation to lead-affective identity, extraversion, openness to experience, conscientiousness and neuroticism was found significant ($\chi^2 (5, 213) = 16.23, p = .006$). The goodness of fit to the data assumption was satisfied because Hosmer-Lemeshow test was not significant ($\chi^2 (8, 213) = 9.06, \text{ns}$). Furthermore, motivation to lead-affective identity, extraversion, openness to experience, conscientiousness
and neuroticism accounted for 10% variance in being in a leader position or not. The overall accurate classification rate was 65.3, which is lower than the by chance classification rate of 66.9. The model better predicted not being in a leader position (88.9%) than being in a leader position (24.4%). However, according to the Wald statistics of these variables, all of them were greater than the level of significance of .05 which means, none of these variables have an impact on the odds of occupying a leadership position.

When CRT-L was entered into the model, the block was found significant ($\chi^2 (1, 213) = 28.85, p < .001$). Also, Hosmer-Lemeshow test was not significant ($\chi^2 (8, 213) = 8.62, \text{ns}$) and the goodness of fit to the data assumption was satisfied. The chi-square difference of the Block 1 and Blok 2 was significant ($\chi^2 (1, 213) = 28.85, p < .001$) which means the inclusion of CRT-L significantly improved prediction of a leadership position. Furthermore, it was found that, CRT-L accounted for 16% additional variance over the theoretically-related motive and personality variables assessed with self-reports. CRT-L (Wald = 23.63, $(\text{Exp})B = 1.23, p < .001$) significantly predicted being in a leader position or not. The analysis indicated that each one unit increase in the CRT-L increases the odds of being in a leadership position by a factor of 0.23. After addition of CRT-L, the overall accurate classification rate was found 73.7 which is higher than the by chance classification rate of 66.9 and also it was revealed that the model better predicted not being in a leader position (87.4%) than being in a leader position (50%).
Table 7. Hierarchical Logistic Regression Analysis of CRT-L Over MTL and Related Personality Variables Assessed in the Prediction of Position

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<tr>
<th>Criterion</th>
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<th>SE</th>
<th>Wald</th>
<th>Exp(B)</th>
<th>NagelkerkeR Square</th>
<th>Chi square</th>
<th>Square</th>
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Dependent Variable: Leader-Non leader. *p < .05, **p < .001
3.3.2 Construct validation of CRT-TL

Before testing the construct validity of CRT-TL, subordinates’ MLQ-based evaluations of their leaders’ transformational leadership style were aggregated. In order to justify aggregation, agreement of follower perceptions of a common group leader was analyzed using the intraclass correlation coefficient (ICC). ICC value was used to evaluate whether or not subordinates who work with the same leader had similar perceptions about their leader. The calculation of the ICC (see Equation 1) is based on ANOVA components and higher values indicate that subordinates working with a common leader share similar perceptions and that perception differences across groups arise from working with a different leader. In the equation \( k \) corresponds to the average number of subordinates that evaluated their leader, which in the data set was three. According to the rule of thumb; in order to decide whether or not the data could be aggregated, the ICC result has to be higher than .12 (James, 1982). In the present study ICC was found to be .29 which means that 29 per cent of variance in subordinates’ perceptions of their leader’s transformational style can be explained by group membership (that is, working with a specific leader).

*Equation 1.*

\[
\text{ICC} = \frac{[\text{BMS}-\text{WMS}]}{[\text{BMS}+(k-1)\times\text{WMS}]} \quad \text{Where;}
\]

- BMS: between mean square of follower perceptions
- WMS: within mean square
- \( k \): average number of followers in a leader’s work group

Transformational leadership would be best explained by how subordinates evaluate their leader, rather than leaders’ self-evaluations. Thus, the correlation between CRT-TL and subordinates’ MLQ evaluations was examined with the purpose of investigating the construct validation of CRT. According to the results, CRT-TL scores of leaders and subordinates’ MLQ evaluations were significantly and positively correlated \((r = .38)\) which means the higher scores the leader gets from CRT-TL, the higher their subordinates evaluate that leader as a transformational leader.
Hierarchal regression was performed to test the incremental prediction of CRT-TL over conceptually equivalent scales of the leaders’ self-reported motivation to lead-affective identity, the relevant self-report personality factors which were extraversion and neuroticism, and leaders’ self-reported MLQ in the prediction of subordinates’ transformational style evaluations about their leaders. Two analyses were performed because of the sample size that only 61 leaders were evaluated by their subordinates in the present study. Hence, in the first analysis, firstly subordinates’ evaluations of their leaders based on the MLQ were regressed on leaders’ self-ratings of personality variables theoretically related with transformational leadership which were extraversion and neuroticism from BFI and the affective identity subscale from the MTL scale. Secondly, CRT-TL questions were entered in the second step. As it can be seen in Table 8, the first model was non-significant. None of the variables significantly predicted subordinate perceptions but CRT-TL added significant incremental variance over the first model ($F_{\text{Change}} (1,56) = 8.78, \ p = .04$). CRT-TL significantly predicted subordinates’ MLQ scores based on the evaluation of their leaders, $\beta = .37 \ t(56) = 2.96, \ p = .04$. Although extraversion, neuroticism and affective identity did not significantly explain any variance in subordinates’ MLQ score for their leaders, CRT-TL accounted for an additional 13% of variance in subordinates’ leader evaluations. In the second analysis, firstly subordinates’ evaluations of their leaders based on the MLQ were regressed on leaders’ self-rated MLQ scores and secondly CRT-TL was entered in the equation. The first model did not reveal significant results; leaders’ self-reported transformational style did not explain any variance in subordinate perceptions of their style, however in the second step CRT-TL added significant incremental variance over the first model ($F_{\text{Change}} (1,58) = 8.9, \ p = .04$). CRT-TL significantly predicted subordinates’ MLQ scores based on the evaluation of their leaders, $\beta = .39 \ t(58) = 2.98, \ p = .04$. Although leaders’ own perceptions of style did not significantly explain any variance in subordinate perceptions, CRT-TL was responsible for an additional 13% of variance in subordinates’ leader evaluations.
Table 8. Hierarchical Regression Analysis Testing the Predicting Power of CRT Over BFI (Extraversion and Neuroticism), MTL (Affective Identity) and MLQ Assessed by Leaders.

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<td>0.14</td>
<td>0.09</td>
<td>0.59</td>
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<td>MTL-Affective Identity</td>
<td>-0.07</td>
<td>0.15</td>
<td>-0.07</td>
<td>-0.45</td>
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<td>CRT-TL</td>
<td>0.06</td>
<td>0.02</td>
<td>0.37</td>
<td>2.96</td>
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<tr>
<td>MLQ</td>
<td>0.17</td>
<td>0.20</td>
<td>0.11</td>
<td>0.85</td>
<td>.01</td>
<td>.01</td>
<td>.72</td>
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<tr>
<td>MLQ</td>
<td>-0.06</td>
<td>0.20</td>
<td>-0.04</td>
<td>-0.29</td>
<td>.14*</td>
<td>.13*</td>
<td>4.86*</td>
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<tr>
<td>CRT-TL</td>
<td>0.06</td>
<td>0.02</td>
<td>0.39</td>
<td>2.98</td>
<td></td>
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</table>

Dependent Variable: Subordinates' MLQ Evaluations *p < .05
3.4 Noteworthy Correlations of Study Variables

On the one hand, the CRT-TL had a moderate but significant correlation \((r = .36)\) with leaders’ self-evaluations on the MLQ but on the other hand it had non-significant relationships of .06 and .07 with the total scores of MTL and BFI scales as rated by the leaders, respectively. The CRT-Lead also demonstrated a moderate and significant correlation with leaders’ self-reported MLQ \((r = .35)\) and similarly revealed non-significant relationships with self-reported MTL and BFI with the correlation coefficients of .11 and .07, respectively. According to the dissociation hypothesis the self-report scales and implicit scales that measure the same construct should reveal small and non-significant relationships. In the current study, both implicit and self-report scales that measured motivation to lead and transformational leadership showed moderate correlations with each other and these noteworthy findings are discussed in the discussion section in detail.

Moreover, there were no significant relationships between leaders’ self-report MLQ scores and subordinates’ aggregated MLQ scores which meant that leaders and their followers had different views about a particular leader’s style.

Also, when the CRT-TL correlates of leaders’ self-evaluations of transformational leadership were examined together with correlates of subordinates’ evaluations of their leaders; it was observed that two power attribution bias questions were inversely related to subordinates’ perceptions of transformational leadership, but positively related to leader’s own perceptions of transformational leadership. Moreover, although leaders’ opinion about their transformational leadership style did not show any significant relationship with subordinates’ evaluations, leaders’ MLQ score yielded significant correlation with their implicit test scores (CRT scales) (See Table 6) that are discussed in the discussion section.
CHAPTER IV
DISCUSSION

4.1. Investigation of the Research Questions

The aim of the current study was to generate a new implicit questionnaire based on the Conditional Reasoning Test approach to measure transformational leadership. Conditional Reasoning Testing is a relatively new technique that is used to identify underlying motives by measuring particular beliefs (JMs) that people have when they rationalize or justify their choice of behaviors. Conditional Reasoning Test questions are a type of inductive reasoning problems and try to capture the JMs of underlying motives by making test takers use their reasoning processes (James, 1998).

Before testing the research questions, a long period of time was devoted to developing the CR questions on a theoretical basis. First of all, the literature was reviewed in terms of which personality variables, motives and justification mechanisms were used to describe and understand leadership and transformational leadership. Secondly, critical incidents were collected in order to determine behavioral displays of the underlying motives of transformational leadership. CR questions were developed in the light of the critical incidents results and web surveys. These CR questions were investigated in terms of their construct validity in cognitive lab studies which included leaders, non-leaders, research assistants and academic personnel.

According to the results, out of 26 CR questions, 17 of them significantly differentiated leaders and non-leaders from each other. The relationship between leadership and Five-Factor model of personality was reviewed meta-analytically by Judge et al. (2002) and they revealed that the strongest correlates of leadership was extraversion, neuroticism, conscientiousness and openness to experience with the magnitude of correlations ranging from .24 to .31. In addition to these, as regards to the literature, the most relevant factor from MTL is affective identity with leadership (Chan & Drasgow, 2001). Hence, motivation to lead-affective identity, extraversion, and openness to experience, conscientiousness and neuroticism and CRT-L were
analyzed in the prediction of leadership position and it was found that CRT-L accounted for additional variance in explaining being in a leader and non-leader position. According to Connelly and Ones (2010) others’ ratings provide superior validities as compared to self-ratings in the prediction of academic and job performance so leaders’ CRT test scores were correlated with subordinates’ MLQ test scores in order to investigate the construct validity of the scale. Results revealed that 11 CR questions significantly correlated with subordinates’ MLQ test scores whereas the most relevant Big Five personality factors which were extraversion and neuroticism (Bono & Judge, 2004) and self-report leadership scales which were MTL and leaders self-evaluated MLQ did not explain transformational leadership. When CRT-TL was entered in the equation, the model was found significant.

In the literature, James and LeBreton (2011) developed a CRT questionnaire that aimed to measure leadership. Researchers indicated that power and aggression were the implicit motives related with leadership and tested these motives with their CRT-L which included 25 multiple-choice inductive reasoning problems. The early version of CRT-L yielded promising results and they found that managers and assistant managers’ CRT-L scores were related to monthly store sales ($r = .44$) and monthly store profit ($r = .46$) in a large retail company. James and LeBreton (2011) correlated their scales’ scores with real work life output but in the current study leaders’ CRT scores were correlated with subordinates’ perceptions of their leaders’ level of transformational style. The present study also tested the CRT in terms of its prediction power and results revealed that CRT predicted leadership and transformational leadership better than other self-report scales that were used in the literature. The emphasis on transformational leadership distinguished the current measure from the already existing CRT measure of leadership.

Furthermore, in the literature CRT-L (James & LeBreton, 2011) was tested in samples of psychology and MBA students in which the peer nomination technique was used as a criteria in order to define leaders and non-leaders, nevertheless the study showed inconclusive results (Wright, 2011). However, in the current study, participants were not nominated as leaders and non-leaders, instead they were
occupying a leader or subordinate position in their real life work settings and this situation strengthens the findings of the present study.

Additionally, the literature claimed that although self-report and implicit scales were developed to measure parallel constructs, these two types of measures assess different facets of an individual’s motivational states, so these scales were independent from each other (McClelland et al., 1989). In an earlier study, in order to show this dissociation, the relationship between the self-report scale of Interpersonal Dependency Inventory used to assess interpersonal dependency in clinical, laboratory and field settings, and the projective measure of Rorschach Oral Dependency was investigated. Results revealed that these scales fulfilled the dissociation criteria and demonstrated modest positive correlations (Bornstein, 2002). Furthermore, James (1998) researched the dissociation between implicit and explicit measures and found that CRT assessing achievement motivation showed non-significant relationships with self-report counterparts which were WOFO \( (r = .12) \) and TAT \( (r = -.08) \) and claimed that implicit measures did not correlate significantly with their self-report counterparts and called it the dissociation hypothesis. Moreover, Wright’s (2011) investigation of the CRT leadership also supported the dissociation hypothesis where the correlation between CRT-L and self-reported Motivation to Lead scale scores showed a significant but small correlation in the psychology student sample \( (r = -.19) \), and a small non-significant correlation in the MBA student sample \( (r = -.14) \).

Similar findings were observed in other studies for example; Winter, John, Stewart, Klohnen and Duncan (1998) reviewed the trait and motive concepts and they argued that these two concepts represent two fundamentally different elements of personality and also they found that extraversion measured with self-report scales were not related to affiliation \( (r = .10) \) and power \( (r = -.09) \) measured with the TAT. Bing, LeBreton, Davison, Migetz, and James (2007) measured the achievement motivation with self-report scale and CRT-Achievement Motivation Scale and they revealed that the two moderately correlated with each other \( (r = .31) \). Frost, Ko, and James (2007) investigated aggressiveness with CRT-Aggression scale and The
Angry Hostility Scale from NEO-PI–R and results indicated that the two had a small and non-significant relationship with each other \( r = .06 \). All of these results demonstrated that implicit and self-report scales measure a different component of personality. Similar to previous results, the present study revealed that the CRT-Lead scale and CRT-TL scales had non-significant relationships with the self-report counterparts of MTL and had significant but moderate relationships with the MLQ factors.

Another noteworthy result that was obtained in the present study was that although subordinates’ evaluations of their leaders’ transformational leadership style did not significantly correlate with leaders’ self-reported style, leaders’ implicit CRT scores did. When the implicit measurement literature was investigated it was indicated that the effectiveness of implicit measures, such as TAT, were investigated through others’ ratings. Lindzey and Tejessy (1956) stated that other people’s evaluations were a more reliable way of understanding ones’ overt behaviors so this relationship needed to be investigated in future studies. Moreover, Davids (1973) investigated aggression levels of emotionally disturbed boys through the TAT and used their psychologist’s prediction concerning their aggressive behaviors and also the child care staff’s evaluations about the subject’s aggressive behaviors as criteria. Thus, it could be claimed that the significant relationship between subordinates’ ratings and leaders’ CRT ratings were more sensible because, in the literature the relationship between overt behaviors and implicit measures was investigated through others’ ratings and in the current study, subordinates evaluated their leaders’ overt leadership style so this finding was not surprising. To sum up, it can be claimed that measuring leadership as an implicit way is more reliable than measuring it with self-reports because implicit measures captured people’s real intentions and behaviors that were displayed to the environment.

Also, McClelland et al. (1989) yielded supporting results to our argument. They claimed that although implicit measures have been found to predict operant behaviors, self-report measures have been found to predict respondent’s idealized behaviors as self-report measures are affected by explicit social incentives. That’s
why participants respond to the questions in a socially desirable way. In self-reported measures, people responded to the questionnaires with a desire to act in a certain way but seemed unable to do so consistently in real life. However, implicit measures captured people’s automatized tendencies that have been acquired on the basis of life experiences therefore showed themselves later in life automatically. In the present study, it was aimed to capture the automatized modes of thinking with the CRT questions.

One other interesting finding was that leaders with stronger power motives perceived themselves as more transformational leaders, but inversely subordinates evaluated leaders with high scores on the CRT power-motive questions as having less transformational leadership ($r$ range of questions was from -.13 to -.18). These results demonstrated that although leaders thought in good faith that showing power to subordinates was justifiable in the competitive organizational context and made someone a successful leader; subordinates evaluated the same leaders as undesirable. In fact, mean leader MLQ ratings were higher than mean subordinate MLQ ratings for the respective leader. Paired sample t-tests were run for MLQ scores of leaders and subordinates, and it was found that each MLQ factor was significantly different from each other. Subordinates’ evaluations of their leader’s style were independent from leaders’ self-reported evaluations.

Furthermore, measuring subordinates’ perceptions of their leaders’ transformational leadership style in order to predict leaders’ effectiveness was an important contribution to the literature. According to the definition of transformational leadership, such a leadership style is more than the compliance of followers in which leaders try to understand the needs, values and beliefs of their followers and improve subordinates’ awareness about the goals and inspire them with their vision and self-confidence. The effectiveness of transformational leadership is more related to the follower’s satisfaction about the leaders (Bass, 1985). Furthermore, the literature revealed that transformational leadership was directly related to positive organizational outcomes, for example, subordinates whose leaders demonstrated transformational leadership behaviors were more satisfied with
their leaders and more satisfied with their jobs (Bono, & Judge, 2003, Dwyer, Bono, Snyder, Nov, & Berson, 2013, Judge, & Bono 2000). The present study paid attention to this relationship and investigated the effectiveness of transformational leadership through subordinates’ evaluations about their leaders.

To sum up, the newly developed CRT scale that aimed to measure leadership revealed statistically significant and practically useful results. This new instrument offered incremental prediction over the self-report scales that are already in use, such as MTL and MLQ. The present study provides initial support for the newly developed CRT. One set of questions forming the CRT-Lead scale can be used to predict leadership positions and another set of questions forming the CRT-TL can be used to better predict subordinate’s perceptions of their leader’s transformational style.

4.2 Strengths of the Study

The current study aimed to contribute to the leadership literature by offering a reliable and valid measure of leadership (specifically transformational leadership) using an implicit assessment technique to avoid the drawbacks of self-report assessments. In general, self-report measurements are used to identify leaders and transformational leaders; however it is known that self-report measurements are open to response distortion. Thus, there was a need to develop new measurement techniques to measure leadership like implicit assessment techniques. James (1998) had introduced an implicit CRT measure for leadership. The present study made a further contribution to implicit assessments of leadership with the CRT-TL in predicting subordinate perceptions of their leaders’ transformational leadership style.

The test development stage of the current study was long-drawn out and a labor intensive process was followed by researchers. The data from literature findings and from real life experiences were combined successfully to rationally determine the related motives and justification mechanisms of transformational leadership. Furthermore, CR questions were generated attentively for the related JMs by the researchers, so many cognitive labs and meetings were designed to ascertain that the CR questions had construct validity. During these stages, each and every
suggestion made by the participants was examined and necessary modifications in the questions were undertaken in order to improve the validity of the questions. As a result, the CRT significantly predicted leaders and transformational leaders better than the self-report personality, motivation to lead, and transformational leadership tests.

This new instrument measures the implicit motives of the personality in an implicit way in which respondents do not know whether or not their leadership capacity is being assessed so they cannot distort their responses in a socially desirable way. Thus, CRT-Lead and CRT-TL have the potential to be utilized as a selection tool for leaders in work settings.

According to the literature results of CRT and present study’s results, it can be claimed that CRT is a credible instrument to measure implicit motives because of its significant results. In the literature CRT was used to measure aggression, achievement motivation, power and leadership and demonstrated promising results. In addition to these noteworthy results, the current study revealed additional support for the use of the conditional reasoning technique by demonstrating initial results in terms of criterion and construct validities of the CRT-Leadership.

Regarding the dissociation hypothesis, implicit measures are not expected to correlate highly with their self-report counterparts (James, 1998, James & Mazerolle, 2002). In our study, CRT-L and CRT-TL did not have high correlations with their self-report counterparts which were MTL and MLQ. Dissociation hypothesis was satisfied.

The data were collected from different companies with different firm sizes and from different work areas, and locations (Ankara and İstanbul in Turkey) that means the sample included variety. Thus, these properties strengthen the generalizability of the study findings.

Lastly, each test set was distributed to the participants in a private envelope and in order to match the leaders’ and subordinates tests, specific codes were given to envelopes. This method was followed for each participant as it was assumed that ensuring anonymity would increase participation. For this reason, many important
and successful leaders and their teams from international firms were willing to attend the present study.

4.3 Limitations of the Study and Future Suggestions

The present study has several limitations which should be considered in the interpretation of the results. In the present study, empirical criterion-keying was used when the relationships between the CRT and external criteria were examined. The main idea of empirical keying is to maximize the prediction of external criteria. Even though this approach was criticized as it was claimed to decrease the internal consistency of the scale (Guion, 1965; Jones, 1977), the internal consistency of items in the newly developed CRT was adequate. This is because the test questions were not selected empirically from a large pool of questions that span different constructs, but were developed carefully on theoretical and rational grounds. Thus, it could be argued that the empirical criterion-keying procedure used in the present study has strengthened the predictive power of the scales. Moreover, according to Jones (1977), comparing the validity of empirical keying and rational keying approaches, where rational keying was based on analytic procedures on theoretical assumptions and expert judgements and factor-analysis, did not yield significant differences between these two types of keying procedure. Thus, using an empirical keying procedure may not have posed a serious problem in the current study. Nevertheless, due to the circulatory nature of retaining questions and validating the measure using the same criteria, the present study is in need of being replicated with new samples.

Furthermore, only 153 subordinates evaluated their leader’s leadership style and also for some leaders only two subordinates evaluated their leader and this might have resulted in restricted range of evaluation about leader. Future studies can make use of larger samples for more reliable aggregated results.

Culture specificity might be the second limitation of the study that means the development stages of the CR questions were tested in Turkey. The participants may have evaluated the CR questions in the light of their cultural point of view because CR questions are solved with the implicit thoughts. Implicit thoughts, beliefs, attitudes, and expectations may be shaped by culture. Thus, future studies may
examine the power of the CRT in different cultural settings.

Finally, more studies need to be conducted to further support the predictive power of CRT in different work settings that would also include a variety of work and organizational outcomes.
REFERENCES


## APPENDICIES

### Appendix A: Justification Mechanisms for Achievement Motivation

*James, 1998*

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>1. Personal responsibility inclination:</strong></td>
<td>Tendency to favor personal factors such as initiative, intensity and persistence as the most important causes of performance on demanding tasks.</td>
</tr>
<tr>
<td><strong>2. Opportunity inclination:</strong></td>
<td>Tendency to frame demanding tasks on which success is uncertain as “challenges” that offer “opportunities” to demonstrate present skills, to learn new skills, and to make a contribution.</td>
</tr>
<tr>
<td><strong>3. Positive connotation of achievement striving:</strong></td>
<td>Tendency to associate effort (intensity, persistence) on demanding tasks to dedicate”, “concentration”, “commitment” and “involvement”.</td>
</tr>
<tr>
<td><strong>4. Malleability of skills:</strong></td>
<td>Tendency to assume that the skills necessary to master demanding tasks can, if necessary, be learned or developed via training, practice and experience.</td>
</tr>
<tr>
<td><strong>5. Efficacy of persistence:</strong></td>
<td>Tendency to assume that continued effort and commitment will overcome obstacles or any initial failures that might occur on a demanding task.</td>
</tr>
<tr>
<td><strong>6. Identification with achievers:</strong></td>
<td>Tendency to empathize with the sense of enthusiasm, intensity and striving that characterize those who succeed in demanding situations. Selectively, focus on positive incentives that occur from succeeding.</td>
</tr>
</tbody>
</table>
### Appendix B: Justification Mechanisms for Aggression (James, 1998)

1. **Hostile Attribution Bias**: A propensity to sense hostility and perhaps even danger in the behavior of others. The alarm and feelings of peril engendered by this heightened sensitivity to threat trigger a concern for self-protection. Apprehension about self-preservation enhances the rational appeal of self-defense, thus promoting the self-deceptive illusion that aggression is justified.

2. **Potency Bias**: A proclivity to focus thoughts about social interactions on dominance versus submissiveness. The actions of others pass through a perceptual prism primed to distinguish (a) strength, assertiveness, dominance, daring, fearlessness, and power from (b) weakness, impotence, submissiveness, timidity, compliance, and cowardice. Fixations on dominance versus submissiveness generate rationalizations that aggression is an act of strength or bravery that gains respect from others. Failing to act aggressively shows weakness.

3. **Retribution Bias**: A predilection to determine that retaliation is more rational than reconciliation. This bias is often stimulated by perceptions of wounded pride, challenged self-esteem, or disrespect. Aggression in response to the humiliation and anger of being demeaned is rationalized as justified restoration of honor and respect.

4. **Victimization by Powerful Others Bias**: A bias to see inequity and exploitation in the actions of powerful others. The ensuing perceptions of oppression and victimization stimulate feelings of anger and injustice. This sets the stage for rationalizing aggression as a legitimate strike against oppression and a justified correction of prejudice and injustice. This sets the stage for rationalizing aggression as a legitimate strike against oppression and a justified correction of prejudice and injustice.

5. **Derogation of Target Bias**: This bias consists of an unconscious tendency to characterize those one wishes to make (or has made) targets of aggression as evil, immoral, or untrustworthy. To infer or associate such traits with a target makes the target more deserving of aggression.

6. **Social Discounting Bias**: A proclivity to frame social norms as repressive and restrictive of free will. Perceptions of societal restrictiveness promote feelings of
reactance. These feelings furnish a foundation for justifying socially deviant behaviors such as aggression as ways to liberate oneself from repressive social customs and to exercise one’s lawful right to freedom of expression.
Appendix C: Justification Mechanisms for Power (Leadership)

(James, & LeBreton, 2011)

1. Agentic Bias: When attempting to think rationally and objectively about strategic decisions, POs instinctively take the perspective of the agents or initiators of actions. Consequently, their thinking often evidences a propensity to confirm (e.g., build logical support for) the agents’ ideas, plans, and solutions. These ideas, plans, and solutions are viewed as providing logically superior strategic decisions. The key to the Agentic Bias is the perspective from which people frame and reason. POs instinctively look down; that is, they identify with the people (like themselves) who reside in management positions, create strategic plans, and then lead others to carry out the plans. People with weak or nonexistent power motives, whom we will refer to as “NPs,” instinctively look up. When thinking about strategic decisions, they take the perspectives of those lower in the organization, who are affected by the decisions and actions.

2. Social Hierarchy Orientation: Reasoning from this orientation reflects implicit acceptance of hierarchical authority structures as the primary form of human organization. Reasoning is often based on the unstated, and for many POs, unrecognized premise that disproportionate influence, privilege, and distribution of resources are rational ways of organizing and leading (as opposed to egalitarian power structures). The unstated assumptions they identify are thus likely to be supportive of the premise. An assumption such as the following is illustrative: Decisions can be made quickly without lengthy discussion or dissention. NPs on the other hand are unlikely to be supportive of the premise because they do not implicitly accept hierarchical authority structures as the primary and most natural form of human organization. In fact, they may well be disposed to reason that power structures that involve disproportionate influence, privilege, and distributions of resources often produce less than optimal decisions. The unstated assumptions they identify are thus likely to be critical of the premise.

3. Power Attribution Bias: Reasoning with this bias reflects a predisposition to logically connect the use of power with positive behavior, values, and outcomes.
Acts of power are interpreted in positive terms such as “taking initiative”, “assuming responsibility”, and being “decisive”. These same acts are logically associated with positive outcomes, such as organizational survival, stability, effectiveness, and success. The powerful are viewed as talented, experienced, and successful leaders. In like manner, successful leadership is rationally attributed to the use of power. The Power Attribution Bias stands in contrast to the tendency of society, including a great many NPs, to correlate the exercise of power with entitlement, corruption, and tyranny. More specifically, the power motive is held culpable for (a) placing personal gain ahead of group welfare, (b) the seeking of influence simply in order to dominate others, (c) the willingness to use threat and coercion in order to gain power, status, and entitlements, and (d) the building of organizations ruled by narcissistic tyrants who oppress, exploit, and victimize subordinates and employees. NPs who make attributions that those seeking power are dishonest or corrupt believe their framing and analyses are logical and rational. POs on the other hand are predisposed to infer that seeking power is necessary for the survival of the collective and the achievement of important goals. Basically, POs desire to engage in power clearly places them on the defensive in a climate that tends to frame power in derogatory terms. Justification mechanisms such as the Power Attribution Bias are needed to give POs ostensibly objective and rational reasons for engaging in acts of power.

4. Leader Intuition Bias: Decisions and actions appear more reasonable (to POs) when they are based on resources and strategies that confer power to the leader. POs are predisposed to intuitively think of strategies that confer power to themselves (or people like themselves). NPs will be significantly less prone to intuitively identity these same types of strategies as promising. What has likely happened here is that, over the years, POs selectively attended to patterns and decisions that were not only efficacious but that also involved resources that conveyed power to the leader. Examples of such resources include (a) receiving recognition for such things as being an expert or a first-mover, (b) being able to inflict pleasure (rewards) or pain (punishment) on subordinates, (c) being in the nexus of communication or influence structures; (d) being in control of resources; (e) functioning in hierarchical authority
structures where one has personal responsibility for important decisions, and (f) working in cultures where the accumulation and exercise of power via forming alliances and coalitions is expected, even encouraged. The result of selective attention and learning is that strategies and actions that allow POs to develop a power base become part of their tacit knowledge structure. This tacit knowledge is accessed automatically (without awareness), which makes it appear as experience-based intuition of how to solve strategic problems. NPs may also develop tacit knowledge structures and then rely on experienced-based intuition to solve strategic decisions. However, these knowledge structures are unlikely to involve cognitive associations between effective leadership and resources that enhance the NPs’ power.
Appendix D: Interview Form for Collecting Critical Incidence

A. Yönettiğiniz ya da liderlik ettiğiniz insan topluluğunu tatmin ettiği düşünüdüğünüz bir an düşünün.

1. Bu olay ne idi ve ne zaman/hangi ortamda gelişti?

2. Bu duruma yol açan koşullar nelerdi?

3. Takipçileriniz tam olarak ne dedi ve ne yaptı?

4. Bu etkileşimi tatmin edici olarak hissetmenize yol açan şey neydi?
B. Yönettiğiniz ya da liderlik ettiğiniz insan topluluğunda tatminsizlik yaratan bir an düşünün.

1. Bu olay ne idi ve ne zaman/hangi ortamda gelişti?

2. Bu duruma yol açan koşullar nelerdi?

3. Takipçileriniz tam olarak ne dedi ve ne yaptı?

4. Bu etkileşimi tatminsizlik yaratıcı olarak hissetmenize yol açan şey neydi?
**Appendix E: Interview Form For Cognitive Lab Studies**

**Koşullu Muhakeme Testinin Yapisal Geçerliğinin İncelediği Toplanti Soruları**

Dönüştürücü Liderlik Özellikleri taşıyan ve taşmayan katılımcılar


**Katılımcılara sorulacak sorular:**

Dönüştürücü Liderlik Gıdısını içeren cevap seçeneğini seçen katılımcılara sorulacak sorular:

-Bu soru için neden bu cevap şıkını seçtiniz?

Dönüştürücü Liderlik Gıdısını içermeyen cevap seçeneğini seçen katılımcılara sorulacak sorular:

-X cevap seçeneğini (Dönüştürücü Liderlik Gıdısını içeren cevap seçeneği) seçmemenizdeki neden nedir?

-Siz bu cevabı seçmiş olmanıza rağmen, sizce neden biri X cevap seçeneğini (Dönüştürücü Liderlik Gıdısını içeren cevap seçeneği) seçmiş olabilir?
Appendix F: Cognitive Lab Tapes

ACTIVITY INHIBITION

1. QUESTION

Leader View:
C: Angola ortaçağ toplumu ama paragraf ile çelişiyor.

Non-leader view:
A: Angola geri kalmış bir ülke olduğunu için bireylerin etkisi olduğunu düşündüm.
C: Liderlerle aynı görüşü savunuyor

2. QUESTION

Leader View
C: Kurumsal büyüme amacıyla amaçlamaktadır vurgulandığı için birlikte çalışmayı vurgulayan C şıkını işaretledim. Paragraf hedeflemekte olduğunu söze ile bitseydi D şıkını seçerdim ama devam ettiği için C’ye yöneldim.
C: Paragraftan C’yi çıkarsadım.

Non-leader view:
A: Paragrafta ana fikir ne diyince A şıkını kendini gösteriyor.
A: A bana mantıklı geldi.

3. QUESTION

Leader View
B: B şıkı en uygun şık olduğu için onu seçtim.

Non-leader view
A: Paragrafta ana fikir ne diyince A şıkı kendini gösteriyor.
A: A bana mantıklı geldi.

NOT: D şıkını seçen olmadı.
4. QUESTION

Leader View

D: Canla başla çalıştığı doğru ama bunu departman için mi yapıyor öyle bir bilgi yok. Yönetici olmayı beklerken başına yönetici geliyor. Sonuç olarak bükemediğin bileği öpeceksin.


A: İnsanlar kendileri için çalışırlar şirket aidiyeti yüksek olsa bile şirket için çalışmalarına inanmıyorum. Yaşanan aksaklıkları fırsat olarak görüyorum. Aynı zamanda Defne’nin saf bir kız olduğunu düşünüyorum.

Non-leader View

A: Başarısını yöneticiye göstermek istedigine dair bilgi yok. İş için yaptığını düşünüyorum.

5. QUESTION

Leader View


Not: (Yonca Hoca)ASLINDA POWER ATTRIBUTİON BİLE VAR. Yineden otoriter lider ile trans. Lider ayırt edilebilir diye düşünüyorum.

Non-leader View
C. Buğra Bey üst yönetime gayet durumu anlatabilir ama ekipten de bahsetmeli

EXHIBITION

1. QUESTION
Leader View:
A: Seçim kampanyası daha önce hiç yapılmamış. İlk kez yapılmış, belki diğer adaylar ile aynı bilgileri verdi ama yöntem fark yaratmış.
D: D şıkında daha genel bir söylem var.

Non-leader View:
D: En son paragrafta bilgi vurgusu olduğu için D dedim.

2. QUESTION
Leader View
D: Şans ve başarı arasında ilişki yok. İçinde bulunduğu durumu beceri ve donanımından dolayı kendisi göstermiştir.
D: B şıkki paragraftan çıkmıyor.

Non-leader View:
D: İlk başta B’ye yönelim gösterdim ama D daha mantıklı geldi. Ege o süreçte çalıştıği için başarılı olduğu için bu şansı değerlendirmiştir.
D: Ege’nin şansı kolay öğrenebileceği başarılı olabileceği bir departmanda düşünmüş olması.

3.  QUESTION
Leader View
C: D ifadesi hissediliyor ama “onu kapatmanın tek yolunun çok çalıştığını geçtiğini” gösteren bir ibare yok. O nedenle C.
C: C’deki ifade bencilce bir duygudur ve bu iyi bir vasıf mıdır tartışılır. Fiziksel özelliklerini kamufle etmek için kendini ön plana çıkarmaya hakkı vardır sonucunu çıkarmamak gerekir.

Non-leader View
C: Ama C şıkı da tam çıkmıyor. D ise fiziksel özelliklerini kapatmaya çalışığına dair bilgi yok. C’de buna inandıkları için böyle yaptıklarına dair bir bilgi yok.
NOT: 2 lider D şıkında “ancak” kelimesi olmasaydı bu şıkka gidebileceğini belirtti.

4. QUESTION
Leader View
B: Paragrafın son cümlesinde tarihe geçme diyor. Belki de vurgulanan bu.
B: Bilime önemli hizmetlerde bulunmak araç değil amaç olmalı. Sonuçta icat yapmak, ön planda olmak önemlidir.
B: Kişinin psikolojisine girersek tarihe geçme arzusu var. Var olduğunu göstermek istiyor.

Non-leader View
C: İnsanlara hizmet etmenin önemli olduğunu düşünüyorum. İnsanlık işin içinde olsun diye C şıkını işaretledim.

5. QUESTION
Leader View
A: C gidilebilecek bir ifade sonucu böyle bir grup olmasaydı yönetici olabilir miydi? Hayır ama neden on kişilik bir ekipen görev Yağmur Hanım verilmiştir sorusunun cevabı A şıkıdır.
A: C şıkını işaretlemem çünkü Yağmur hanımın talebi doğrultusunda böyle bir birim kurulmuştur. Hak verilmez alınır meselesi.

Non-leader View
A: Katılıyorum. Yağmur hanımın kendi çabasıdır.

POWER
AGENTIC BIAS

1. QUESTION
Leader View:
C: Her projede başkalarından bilgi almadiğına yönelik bir bilgi olsaydı B’ye yönebilirdim ama projeye kendi imzasını atmak istemiş diye düşündüm.
C: C şıkkı insanların karakteri ile ilgili bir şık olduğu için onu seçtim.
Non-leader View:
C: B yi seçmedim çünkü genel olarak bu kişinin başkalarını önemsemişğini çıkaramayız. Bu cevap şık bana çok genel geldi.

2. QUESTION
Leader View
D: Zorlandım ama D dedim, aslında tam olarak D değil ama sanırım cevap bu olmalı dedim.
D: Öyle olması gerektiği için D şıkkını işaretledim ama adil olmak adına B şıkkı daha uygun olmalı
Non-leader View:
D: Zor bir soruydu soruda açık açık bizim fikrimiz soruluyordu. Şıkları eleye eleye gittim.
D: Mesai ücreti almaları gerekiyor çünkü personelin az çalışması personelin hatası değil.

3. QUESTION
Leader View
D: Haklı ile haksızı ayırt edebilmiş Doğru bildiği kelimesi kafa karıştırıcı
D: D2yi seçtim ama valinin popülist davrandığını düşünüyorum.

Non-leader View
A: D şirkini seçtim ama şu anada A şirkına daha yakınım. D’de pragmatik bir yaklaşım var.

4. QUESTION
Leader View
C: C şirkını seçtin çünkü bir sıkıntı var etkili çözüm arayışına giriyor ve bu yöntem bence etkili bir yöntemdir.
C: Kişinin problem çözme yeteneğini gösterdiği için C şirkını seçtim.
C: Arayı bulmaya çalışmış çıkan sonuç bu değil ama bence yapılması gerekenin bu olduğu düşünüyorum.

Non-leader View
A: Son paragrafta yöneticinin iyi niyetli olduğunu düşünüyorum ve kabullenmelerini sağlamaya çalışmıştır. C’de ise alt kesimi kabul ettirmek amacı ile zorlama var gibi geldi, uzlaşmacı değil.

5. QUESTION
Leader View
B: A da doğru aslında ama B şirk insanın kendini geliştirmesi ile alakalı, Güçlü ve başarılı olduklarını anlayarak kendilerini geliştirmeyi denemişler.
B: A çıkabilecek sonuç ama ana fikir en temelde B. Paragraftan böyle çıkıyor.

Nonleader View
POWER
POWER ATTRIBUTION BIAS

1. QUESTION
Leader View:
B: Konuşmadaki sözleri inanç ve kararlılık ifade ediyor. Milletin menfaatleri için yapıyor buunu.
B: Çok açık ve net
Non-leader view:
B: Çok açık ve net
B: Sorudan bu çıkıyor ama D şıkının tarih bilgisi ile uyumlu olduğunu biliyorum. D şıkına gitmemin sebebi bu cevabın bu paragraftan çıkmamasıdır.
No: D şık bilgisi paragraftan çıkmayor konusunda hem fikirler.

2. QUESTION
Leader View
C:Paragrafla uyumlu olduğu için C şıkını seçtim
C: Kurallar net şekilde belli olur ve kurallar adil bir şekilde uygulansa çalışanlar saygı duyacaktır.
Non-leader View
C: A şıkındaki “güç uygulandığı sürece” ifadesi bana çok sert geldi ve beniitti.
A: Yaptırımların uzun vadede sonuç getirmeyeceğini düşündüğüm için A şıkını seçtim.

3. QUESTION
Leader View
C: A ve C arasında gidip geliyorum. Başarmasını yapmak olarak düşündüm.

**Non-leader view**
A: Yönetici müdahalede bulunursa özerklik ve motivasyonun düşeceğini düşünüyorum.

4. **QUESTION**

**Leader View**
C: İkramiyenin ödül olduğu açıkça bellidir ve ödül alıp almamasını belirlemek yöneticinin hakkıdır. D şıkını seçmem çünkü insanların başına buyruk davranışını engellemek gerekir.
C: Başarısızlığın karşısında ikramiye verilmez.

**Non-leader View**
C: Yöneticinin başarısız olduğuna dair bir şık konabilir diye düşünüyorum.

5. **QUESTION**

**Leader View**
D: A şıkçı çeldirici ama çokta çıkartamıyoruz çünkü bu durum bence bilimsel ilerleyişi durdurmadı, başka bir yoldan devam etti, bence bu imaj ile ilgili bir şey o yüzden D şıkını seçtim.
D: Uzay çalışmalarını tamamen imaj çalışmalarını üzerine yapılan bir çalışmadır. İmaj kelimesi beni yönlendirdi.

**Nonleader View**
D: Bilimsel ilerleyişi artırdığı ortada. İmaj konusuna katılyorum.
6. QUESTION

Leader View:

Non-leader View:
Not: Üretim mühendisi ve şef arasındaki hiyerarşik yapı çok açık değil. Üretim mühendisi yerine müdürü denebilir.

CHANGE

POSTIVE CONNATATION OF CHANGE

1. QUESTION

Leader View:
D: Diğerlerinde özel vurgu yok, o yüzden seçtim.

Non-leader view:
A: A şıkkı bana ilk başta en mantıklı geldi.
D: Sadece Hüseyin değil taraflardan biri değişikliğe daha açık olsa daha kolay plan yapılabilir. Belki hiçbir keyif alamayacağı için A’yı seçmedim.
2. QUESTION

Leader View


A: (Irrational Seçti): Temelde aynı şeyleri istedi fakat farklı yolları tercih ettikleri için bence aynı şeylerin düşünmektedirler.

Non-leader View:


D: Sektör değiştirme ekonomik olarak riskli. Paragrafta yoğun rekabete vurgu yapıyor yani risk vurgulanıyor.

CHANGE

EFFICACY AND PERSONAL RESPONSIBILITY BIAS

3. QUESTION

Leader View

A: A şıkı da tam karşılamıyor çünkü ayır edilmessini sağlayanlar başarıya yönlendirecek mi bilmiyoruz. B olamaz çünkü Bayan Brodie’nin seçtiği yöntemin gelişmelerini engelleyemez.


B: Paragrafin yönlendirmesini hissettim o yüzden B şıkımı seçtim. Şu şu olmuştur demiyor. Riskten bahsediyor. Dünya çapından iyi bir öğretmendir demiyor. Eğitim gibi bir durumda bu yaklaşım risk doğurabilir. Eğitim daha sistematik olmalıdır. (Change’i ölçüyor olabilir mi?)

Non-leader View

A: Müfredat eksik veridine dair bir bilgi yok. O yüzden başarıya ulaşır d, ye bir çıkarımda bulundum. Ama kesin değil bu bir çıkarım.
4. QUESTION
Leader View
Non-leader View
C: En genel yargı C şıkıdır.

CHANGE
IDENTIFICATION WITH CHANGE INITIATORS
5. QUESTION
Leader View
Non-leader View
A: En çıkmayacak sonuç D olduğu için A yı seçtim.

6. QUESTION
Leader View
B: Paragraftan bir tek bu çıktı çünkü riski vurguluyor. B: Tartışmaya gerek yok cevap B.
Non-leader View
B: temel sebebe C’nin olmaması B: Tartışmasız B.
# Appendix G: Cognitive Lab Frequencies

<table>
<thead>
<tr>
<th>ACTIVITY INHIBITION</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<td>(L, NL)</td>
<td></td>
</tr>
<tr>
<td>PCC B2</td>
<td>(L)</td>
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<td>(NL,NL)</td>
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<tr>
<td>EPRB3</td>
<td>(L,L,NL)</td>
<td>(L)</td>
<td>(NL)</td>
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<tr>
<td>EPRB4</td>
<td>(L,L,L)</td>
<td>(NL)</td>
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<tr>
<td>ICIB6</td>
<td>(L,L,L,NL)</td>
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<td></td>
<td>C</td>
</tr>
<tr>
<td>ICIB5</td>
<td>(L,L,L,NL)</td>
<td></td>
<td></td>
<td>D</td>
</tr>
</tbody>
</table>

*RED* refers to answer which include bias  
*BLUE* refers to answer which include non-bias  
L: Transformational Leader  
NL: Non-Transformational Leader  
AIB: Activity Inhibition Bias  
EB: Exhibition Bias  
AB: Agentic Bias  
PAB: Power Attribution Bias  
PCCB: Positive Connotation of Change  
EPRB: Efficacy and Personal Responsibility Inclination Bias  
ICIB: Identification with Change Initiators
Appendix H: Demographic Information for Leaders

BÖLÜM 1

1) Yaş : __________

2) Cinsiyet: __________

3) Eğitim:
   İlkokul____ Ortaokul_____ Lise_____ 2 yıllık Üniversite_____
   Üniversite____ Mastır/Doktora____

4) Şu anda çalışmakta olduğunuz firmada kaç senedir yöneticilik yapmaktadır?
   __________

5) Çalıştığınız firmanın hangi departmanında yöneticilik yapmaktadır?
   ______________________________________________________________________

6) Yöneticilik yapmakta olduğunuz firmada çalışan sayısı nedir?
   1-50____ 51-250_____ 251-500_____ 501 ve üzeri_____

7) Yöneticilik yapmakta olduğunuz firma hangi alanda çalışmaktadır?
   ______________________________________________________________________

8) Yöneticilik yapmakta olduğunuz firmada hiyerarşik düzey olarak sizin pozisyonunuzun altında kaç yönetici pozisyonu daha bulunmaktadır? __________

9) Yöneticilik yapmakta olduğunuz firmada hiyerarşik düzey olarak sizin pozisyonunuzun üzerinde kaç yönetici pozisyonu daha bulunmaktadır? __________

10) Toplam kaç sene yöneticilik yaptınız? (Başka kurumlarda da yönetici olarak çalıştıysanız bunu da göz önünde bulundurunuz) _______________

11) Yöneticilik yapmakta olduğunuz firmada kaç kişinin yönetiminden sorumlusunuz?
   1-3____ 4-6_____ 7-9_____ 10 ve üzeri__________
Appendix I: Demographic Information for Subordinates

BÖLÜM 1

1) Yaş : __________

2) Cinsiyet: __________

3) Eğitim (En son mezun olduğunuz okul):
   İlkokul ____ Ortaokul ____ Lise ____ 2 Yıllık Üniversitesi______
   Üniversite____ Mastır/Doktora____

4) Şu anda çalıştığınız firmada, bulunduğunuz pozisyonda kaç yıldır görev almaktaşınız? ____

5) Hangi departmanda görev almaktasınız?
   ____________________________________________

6) Firmanız hangi alanda çalışmaktadır?
   ____________________________________________

7) Değerlendirdiğiniz kişiyle ne kadar süreyle beraber çalışmaktasınız? ____________

8) Değerlendirdiğiniz kişiyle gün içinde ne sıklıkla bir araya gelirsiniz?
   Nadiren_______ Ara sıra_______ Sıklıkla_________ Her zaman _______

9) Aşağıdakilerden hangisi sizi en iyi tanımlar:
   ____ Değerlendirdiğim insandan hiyerarşik olarak daha üstteyim.
   ____ Değerlendirdiğim insanla aynı hiyerarşik seviyedeyim.
   ____ Değerlendirdiğim insandan hiyerarşik olarak alttayım.
1. Ahmet Bey yönetimindeki projenin 30. gününde 10. günkü aşamaya gelindiğini öğrenmiştir. Durumu kabullenememiş ve zaman yönetimi konusundaki başarısızlıklarını devamlı tekrarlayan ekibine ceza vermek uygun görerek normalde o ay içinde almaları gereken primin verilmesini engellemiştir. Paragrafın dayanarak aşağıdaki yargılardan hangisi söylenebilir?

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<tbody>
<tr>
<td>A)</td>
<td>Çocuk ve genç işçi çalışma usul ve esaslarının tekrar gözden geçirilmesi gerekmektedir.</td>
</tr>
<tr>
<td>B)</td>
<td>Kadın ve erkek çalışan sayılarındaki eşitsizlikler bu tarz problemlere yol açmaktadır.</td>
</tr>
<tr>
<td>C)</td>
<td>Çalışanlar kendilerinden beklenen işi gerçekleştirmediğinden, Ahmet Bey yöneticilik inisiyatifi kullanmıştır.</td>
</tr>
<tr>
<td>D)</td>
<td>Ahmet Bey zaman yönetimindeki aksaklıkların nedenlerini araştırmadan çalışanlarını cezalandırmıştır.</td>
</tr>
</tbody>
</table>

2. Kimisine göre, bir şairin görevi, her şeyden önce şiiri geliştirmek olmalıdır. Halbuki, geçen zaman boyunca şiir, sanatçıların aynı yolu seçmeleri sebebiyle değişmemiş ya da pek az değişmiştir. Bu parçadan çıkarılabilecek en uygun yargı hangisidir?

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<tbody>
<tr>
<td>A)</td>
<td>Tanınmak isteyen şair çok ürün vermelidir.</td>
</tr>
<tr>
<td>B)</td>
<td>Şair, kendi yolunda yürümeli, özgün olmaya çalışmalıdır.</td>
</tr>
<tr>
<td>C)</td>
<td>Şair olmak o kadar da kolay bir iş değildir.</td>
</tr>
<tr>
<td>D)</td>
<td>Şairlerin birbirlerinin tarzlarından etkilenmeleri normaldir.</td>
</tr>
</tbody>
</table>

3. X firmasının terfi prosedürüne göre 5 yılı dolan çalışanlar bir üst pozisyonda açık kadro olması durumunda terfi ettirilmektedir. Ancak bu seneki atamalarda 5 yıldırın doldurunca bazı çalışanlar açık kadrolara terfi etirilememek 5 yıldan daha az çalışanlar terfi ettiirilmistir. İş yerinde oluşan olumsuz atmosferin farkında olan birim yöneticisi çalışanlar ile bireysel görüşmeler yapmış, sonra da her biri için ayrı ayrı eylem planları çerçevesinde bu durumu kabullenmelerini ve huzurlu çalışma ortamını tekrar olması gerektiğini sağlamıştır.

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<tbody>
<tr>
<td>A)</td>
<td>Çalışanlara değer verildiğini göstererek durumu kabullenmelerini sağlamıştır.</td>
</tr>
<tr>
<td>B)</td>
<td>İşe alın politikasında verilen kararlar bugünkü problemlere neden olmuştur.</td>
</tr>
<tr>
<td>C)</td>
<td>Yönetimin verdiği kararları çalışanlara kabul etirebilmek için etkili bir çözüm arayışına geçmiştir.</td>
</tr>
<tr>
<td>D)</td>
<td>Ara yöneticilerin kadrasonunun az olması yöneticiliği-çalışan bağlarını zayıflatmakta.</td>
</tr>
</tbody>
</table>
### Appendix K: Big Five Inventory (BFI) by Schmitt, Allik, McCrae, & Benet-Martinez (2007)

#### Bölüm 4

Aşağıda sizi kısmen tanımlayan (ya da pek tanımlayamayan) bir takım özellikler sunulmaktadır. Örneğin, başkaları ile zaman geçirmekten hoşlanan birisi olduğunuzu düşünüyor musunuz? Lütfen aşağıdaki verilen özelliklerin sizi ne oranda yansıtıpını ya da yansıtmadığını belirtmek için sizi en iyi tanımlayan rakamı her bir özelliğin yanına yazınız.

1 = Hiç **katılmıyorum**
2 = Pek **katılmıyorum**
3 = Ne katıyorum ne de **katılmıyorum** (kararsızım)
4 = Biraz **katıyorum**
5 = Tamamen **katıyorum**

Kendimi .......... biri olarak görüyorum

<table>
<thead>
<tr>
<th>1. Konuşkan</th>
<th>23. Tembel olma eğiliminde olan</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Başkalarında hata arayan</td>
<td>24. Duygusal olarak dengeli, kolayca keyfi kaçmayan</td>
</tr>
<tr>
<td>3. İşini tam yapan</td>
<td>25. Keşfeden, icat eden</td>
</tr>
<tr>
<td>5. Orijinal, yeni görüşler ortaya koyan</td>
<td>27. Soğuk ve mesafeli olabilen</td>
</tr>
<tr>
<td>7. Yardımcı olmayan</td>
<td>29. Dakikası dakikasına uymayan</td>
</tr>
<tr>
<td>8. Biraz umursamaz</td>
<td>30. Sanata ve estetik değerlere önem veren</td>
</tr>
<tr>
<td>9. Rahat, stresle kolay baş eden</td>
<td>31. Bazen utangaç, çekingen olan</td>
</tr>
<tr>
<td>10. Çok değişik konuları merak eden</td>
<td>32. Hemen hemen herkes kara saygılı ve nazik olan</td>
</tr>
<tr>
<td>11. Enerji dolu</td>
<td>33. İşleri verimli yapan</td>
</tr>
<tr>
<td>12. Başkalarıyla sürekli didişen</td>
<td>34. Gergin ortamlarda sakın kalabilen</td>
</tr>
<tr>
<td>13. Güvenilir bir çalışan</td>
<td>35. Rutin işleri yapmayı tercih eden</td>
</tr>
<tr>
<td>15. Maharetli, derin düşünün</td>
<td>37. Bazen başkalarına kaba davranabildi</td>
</tr>
<tr>
<td>16. Heyecan yaratabilen</td>
<td>38. Planlar yapan ve bunları takip eden</td>
</tr>
<tr>
<td>17. Affedici bir yapıya sahip</td>
<td>39. Kolayca sinirlenen</td>
</tr>
<tr>
<td>18. Dağınık olma eğiliminde</td>
<td>40. Düşününmeyi seven, fikirleri geliştirbilen</td>
</tr>
<tr>
<td>19. Çok endişelenen</td>
<td>41. Sanata ilgisi çok az olan</td>
</tr>
<tr>
<td>20. Hayal gücü yüksek</td>
<td>42. Başkalarıyla işbirliği yapmayı seven</td>
</tr>
<tr>
<td>21. Sessiz bir yapıda</td>
<td>43. Kolaylıkla dikkati dağılan</td>
</tr>
<tr>
<td>22. Genellikle başkalarına güvenen</td>
<td>44. Sanat, müzik ve edebiyatta çok bilgili</td>
</tr>
</tbody>
</table>

Lütfen kontrol ediniz: Bütün ifadelerin önüne bir rakam yazdınız mı?

101
Lütfen, aşağıda verilen 27 maddeye ne derece katıldığınızı 1 ve 5 arasındaki ölçeği kullanarak belirtin.

1 = Hiç katılmıyorum
2 = Pek katılmıyorum
3 = Ne katılıyorum ne de katılmıyorum (kararsızım)
4 = Biraz katılıyorum
5 = Tamamen katılıyorum

<table>
<thead>
<tr>
<th>Madde</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Eğer liderlik rolünden faydalanabileceğimi bilirsem o grubun lideri olmayı kabul ederim.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Genellikle içinde çalıştığım grupların lideri olmak isterim.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Liderlik etme teklifi almak bir onur ve ayrıcalıktır.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Bir gruba liderlik etmeye kabul edemem durumunda bana daha fazla ayrıcalık getirmesini asla beklemem.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Grup üyelerinden ne zaman liderlik etmem teklif edilirse ya da aday gösterilirse liderliği kabul ederim.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Bir grubun lideri olmak konusunda çekinceli durduğum nadirdir.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Eğer liderlik rolünü üstlenmek bana yarar sağlamayacağına lider olmayı asla kabul etmem.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Liderlik rolünü geri çevirmek doğru değil.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Başkalarına liderlik etmek onurlu bir iş olmaktan ziyade asıl bir üstün.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Eğer bir gruba liderlik etmeye kabul edecersem, bunun bana ne yarar sağlayacağı bilmem isterim.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Bir lideri aktif olarak savunan ama lider olarak atanmak istemenin biriyim.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. İçinde çalıştığım grup veya takımların birçoğunda sorumluluk alma eğitiminim vardır.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Sıfat</td>
<td>Değerlendirme</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>-----</td>
<td>------</td>
<td>--------------</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>15</td>
<td>Sırf başkaları bana oy verdi diye, asla liderlik rolüne razı olmadım.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>Sadece benim için bariz avantajları olduğu durumda bir gruba liderlik etmek ilgimi çeker.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>bir grubun lideri olmak yerine grubun üyesi olduğum zaman o gruba daha çok katkı sağlayacağımı düşünürüm.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>Herhangi bir ödül veya fayda sağlamasa bile başkalarına liderlik etmeyi kabul ederim.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>Eğer benden başkalarına liderlik etmem istenirse bunun görevim olduğunu hissederim.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>İnsanlara liderlik teklif edildiğinde, doğru olan bu teklifi kabul etmeleridir.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>Bir gruptaki diğer insanların problemleriyile ilgilenmeden önce endişelenmem gereken kendime ait çok daha fazla problemim.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>Bir grup içerisinde çalışırken çoğunluk zaman grubun üyesi olmak yerine lideri olmayı tercih ederim.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23</td>
<td>Bana başkalarına liderlik etmenin değerli bir şey olduğu öğrettildi.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24</td>
<td>Bir gruba liderlik etmeyi kabul etmem durumunda bana daha fazla bir avantaj ya da özel bir fayda sağlamaması asla</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25</td>
<td>Ben başkalarından sorumlu olmayı seven biriyim.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26</td>
<td>Ben başkalarına liderlik etmeye ilgi duymayan tipte biriyim.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27</td>
<td>İnsanların, başkaları tarafından aday gösterilmiyeyi ya da kendilerine sorularımı beklemeden liderlik etmeye gönülü olmasa gerekmektedir.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix M. Licence of MLQ-5X

Multifactor Leadership Questionnaire
Instrument (Leader and Rater Form)
and Scoring Guide
(Form 5X-Short)

by Bruce Avolio and Bernard Bass

Published by Mind Garden, Inc.

info@mindgarden.com
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Appendix N. Turkish Summary

TÜRKÇE ÖZET

GİRİŞ

1.1 Liderlik


1.2 Lider Seçme Yöntemleri

1.3 Liderliğin Kavramsallaştırılması


1.4 Liderlik ve İlişkili Kişilik Özellikleri


Literatürde kişilik farklılıklarını ve dönüştürücü liderlik arasındaki ilişki sıklık araştırmaştırılmaktır. Örneğin Bono ve Judge’ın (2004) yürüttüğü meta analiz çalışmasında dışa dönüklik (ρ = .22) ve nevrotiklik (ρ = -.17) dönüştürücü liderlik ile ilişkili
bulunmuştur. Ayrıca uyumluluk, yeniliğe açıklıkta dönüştürücü liderlik ile ilişki bulundu ancak bu değişkenlerin güvenirlilik değerlerinin sıfır olduğu tespit edilmiştir.

1.5 Dönüştürücü Liderlik ve İlişki İhtiyaç ve Güdü Değişkenleri


Sonuç olarak, dışadönüklük ve yeniliklere açıklık etkili liderlik ile ilişkili olup bu kişilik özellikleri de Murray’nin açıkladığı güç, hakimiyet, kendini gösterme, sergileme ve değişim yaratma ihtiyaçları ile ilişkili olduğu düşünülmiştir. Ayrıca bu kişilik özellikleri ve güdüler beraber incelendiğinde McClelland’ın açıkladığı desenlerin de dönüştürücü liderlik ile ilişkili olduğu değerlendirilmiştir. Mevcut çalışmada, dönüştürücü liderliğin doğrulanma mekanizmaları olarak; güç güdüzü ve bu güdünün doğrulanma mekanizmalarından temsıl güdüsü ve güce atıfta bulunma güdüsü; etkinliği engellemeye güdüsü; değişim güdüsü ve bu güdünün doğrulanma mekanizmalarından fayda sağlama ve kişisel sorumluluk alma güdüsü; değişime pozitif yaklaşma güdüsü ve değişimi başlatan kişilerle bağlantı kurma güdüsü ve son olarak kendini gösterme güdüsü tespit edilmiştir.

1.6 Kişinin Kendi Beyannına Dayalı Ölçme Yöntemlerindeki Problemler

Tepki yanlılığı yaklaşık 100 yıldır psikoloji literatüründe tartışlan bir konu olup kişinin kendi beyannına dayalı değerlendirmelerin de kasıtlı olarak da

1.7 Koşullu Muhakeme Testi


1.7.1 Testin Formati

başarısızlıktan korkma) ölçmektedir ya da hiçbir doğrulama mekanizmasını içermemektedir. Geriye kalan iki cevap şıkkı ise paragraf ile ilişkisi olamayacak cevaplar içermektedir. Katılımcılar doğrulama mekanizmasını içeren cevap şıkkını seçerlerse +1, doğrulama mekanizmasını içermeyen şıkları seçerlerse -1 ve mantıksız cevap şıklarından birini seçerlerse 0 puan almaktaadırlar.

KMT’nin ilk uygulandığı yapı başarma motivasyonudur ve Amerika Üniversite Giriş Sınavları ile ilişkisi incelendiğinde bu iki testin yüksek korelasyon\( (r = .49)\) gösterdiği tespit edilmiştir (James, 1998). Benzer bir şekilde, koşullu muhakeme testinin akademik başarıyı yordamada bilişsel yetenek testinin üzerinde bir yordama etkisine sahip olduğu bulunmuştur. Ayrıca koşullu muhakeme testinin öz-beyan karşılığı olan iş ve aile uyum sağlama testi ve test kaygısı testi ile anlamsız ilişki göstermektedir. Gizil ve öz-beyana dayalı anketlerin aynı yapının farklı kısımlarını ölçmelerinden dolayı düşük korelasyon göstermelerine dair bir teori denilmektedir. (James, & Mazerolle, 2002).


Son olarak, liderliği ölçmek adına bir koşullu muhakeme testi geliştirilmiştir. Bu test kapsamında saldırganlık ve güç güdüleri ve doğrulama mekanizmaları başarılı liderliğin yordayıcıları olarak kabul edilmiştir. Liderliği ölçen koşullu muhakeme testi 25 adet muhakeme sorusu içermektedir. Büyük bir perakende satış şirketinde yapılan çalışmada KMT-Liderlik ölçüğü aylık mağaza satış oranı \( (r = .44)\) ve aylık mağaza karlılığı \( (r = .46)\) arasında anlamlı bir ilişki bulunmuştur (James, & LeBreton, 2011). Fakat, Wright’in (2011) öğrenci örnekleminde yürüttüğü çalışma benzer sonuçlar doğurmamıştır. Bu çalışmada öğrencilerden sınıf arkadaşlarından
bazılarını lider olarak atamaları istenmiş ve bu kişilerin Koşullu muhakeme liderlik testi sonuçlarına bakılmıştır. Sonuçlara göre psikoloji ve işletme öğrencilerinin liderlik örneklemleri ile koşullu muhakeme liderlik testi anlamsız sonuçlar ortaya çıkmıştır.

1.7.2 Dönüşümcü Liderlik için Koşullu Muhakeme Testi Geliştirme


Sonuç olarak, mevcut çalışmanın genel amacı dönüşümcü liderlik ile ilgili yeni bir koşullu muhakeme testi geliştirmek ve aşağıdaki sorulara cevap bulmaya çalışmaktır.

**Araştırma sorusu (1)** Geliştirilen koşullu muhakeme testi lider pozisyonunda olan ve olmayan kişileri ayırt edebiliyor musunuz?

**Araştırma sorusu (2)** Geliştirilen koşullu muhakeme testi takipçilerin...
liderleri hakkındaki değerlendirmelerini yordayabilir misiniz?

**Araştırma sorusu (3)** Kriter bağlı ölçek oluşturulduktan sonra bu testler dönüştürücü liderliği ölçmek için kullanılan diğer ölçeklerle birlikte nasıl sonuçlar ortaya koymaktadır.

**METOT**

2.1 Muhakame Test Sorularının Geliştirilmesi

Muhakeme sorularının geliştirilmesi için internet ve wikipeida araştırmaları yapılarak ilgili olabileceğini düşünülen örnek olaylar tespit edilmiştir. Ayrıca, daha önceki senelerde ÖSYM tarafından sorulan Türkçe paragraf soruları, üniversite sınavlarına hazırlık amacıyla geliştirilen Türkçe paragraf soruları incelenmiş kullanılabilecek paragraf soruları da belirlenmiştir.

2.2 Ön çalışm (1) Örnek Olay Toplama

Örnek olay toplama mevcut çalışmanın ilk basamağı olup 15 lider ile yürütülmüş olup başarılı oldukları ve olmadıkları liderlik davranışları ile ilgili örnek olayları anlatmaları istenmiştir. Toplanan 30 örnek olay teker teker incelenmiştir ve KMT’de kullanılabilecek olay örüntüleri tespit edilmiştir. Daha sonra bu olaylardaki kişi yer ve zaman bilgileri değiştirilerek KMT soruları ve cevap şıkları geliştirilmiştir.

Sonuç olarak 27 adet soru oluşturulmuş olup bunlardan beş tanesi araştırmacıların tecrübelerinden, 10 tanesi örnek olaylardan ve 12 tanesi ise internet sitelerinden ve Türkçe paragraf sorularından geliştirilmiştir.

2.3 Ön çalışma (2): Koşullu Muhakeme Testinin Yapı Geçerliliği

Soru setleri oluşturulduktan sonra, ikinci aşama olarak oluşturulan soruların geçerliliği bilişsel laboratuvar çalışmasıyla incelenmiştir. Bilişsel laboratuvar çalışması bir çeşitli analiz yöntemi olup oluşturululan soruların gerçekte ölçülme istenen şeyi ölçüp ölçemediği ile ilgili katılımcıların fikirlerini beyan ettiği bir çalışmaya dönüştürülmiştir. Bu çalışmada farklı sosyal çevrelere yetiştirilmiş kişiler bir araya gelir ve ölçüğün her maddesi için fikirlerini teker teker beyan ederler. Çalışmayı yürütten kişilerde bu beyanları not alarak ölçekte çeşitli düzenlemeler yaparlar. Dört farklı bilişsel laboratuvar toplantısı yapılmış olup, ilk çalışmada beş liderin ve üç çalışanın, ikiinci

2.4 Ana Çalışma


2.4.1 Ölçekler

2.4.1.1 Koşullu Muhakeme Testi

Geliştirilen KMT dönüştürücü liderliği ölçmek için kullanılmıştır. Test 26 sorudan oluşmaktadır. Altı soru temsil güdüsünü, beş soru gücü atıfta bulunma güdüsünü, üç soru etkinliği engellemeye güdüsünü, iki soru değişimden fayda sağlamak ve kişisel sorumluluk alma güdüsünü, iki soru değişime pozitif yaklaşım güdüsünü, iki soru değişimini başlatan kişilerle bağlantı kurma güdüsünü ve son olarak altı soru kendini gösterme güdüsünü ölçmektedir. Ölçülmek istenen güdüyü seçenler +1, ölçülmemek istenen güdüyü içermeyen sıkı seçenler -1, alakasız cevap sıkışını seçenler 0 puan almaktadır.

2.4.1.2 Çok Faktörlü Liderlik Ölçeği (Avolio, & Bass, 1995)

Çok faktörlü liderlik ölçği dönüştürücü liderliği ölçen kişinin kendi beyanına dayalı bir testtir. Testin telif haklarını elinde tutan Mindgarden’dan testin Türkçe

2.4.1.3 Yönetme Motivasyonu Ölçeği (Chan, & Drasgow, 2001).

Liderlik davranışları ve kişi farklılıklarını anlamak için kişinin kendi beyanına dayalı Yönetme Motivasyonu testi kullanılmıştır. Test 27 soru içermekte olup literatürde içtutarlık değeri .65 ve .91 aralığında rapor edilmiştir (Chan, & Drasgow, 2001).

2.4.1.4 Beşli Kişilik Envanteri (Benet-Martinez, & John, 1998)


SONUÇLAR

Analize başlamadan önce veri seti doğru data girişleri, eksik data ve tek değişkenli ve çok değişkenlik aykırı değerler incelenmiştir. Eksik datalar ortalama hesaplama ve yerleştirme yöntemi aracılığıyla doldurulmuştur. Koşullu Muhakeme test sorularına eksik veri yerleştirme tekniği uygulanmamış bunu yerine bu sorulara 0 değeri verilmiştir. Bir adet çok değişkenli aykırı değeri ele alma ve 4 adet tek değişkenli aykırı değeri ele alınma tespit edilmiş ve bu kişiler silinmiştir.

3.1 Ölçeklerin Faktör Analizi, Tanımlayıcı İstatistik Değerleri ve Korelasyonlar

Bütün ölçekler literatürde belirtilen faktör sayılara göre faktör analizine tabi tutulmuştur. Beşli kişilik envanterinden altı sorunun ve yönetim motivasyonu ölçeğinden üç sorunun farklı dağılım desenleri göstermesinden ve ayrıca iç tutarlık değerlerini düşürmesinden dolayı silinmiştir. KMT soruları faktör analizine tabi tutulmamıştır.

Bütün KMT soruları lider pozisyonunda bulunan ve bulunmayan kişilerle korelasyon analizine tabi tutulmuş ve. 07 ve üzeri korelasyon gösteren 17 soru KMT-


3.2 Ölçüt Bağlantılı olarak KMT’nin geçerliliği


Ayrca, KMT-Y testinin, kişinin kendi beyannına dayalı testlere (yönetme motivasyonu ölçeğinden duygusal kimlik faktörü ve beşli kişilik evanterinden dışadönüklük, sorumluluk, yenilige açıklik ve nevrotiklik faktörleri) oranla liderlik pozisyonuna ilişkin nasıl bir sınıflandırma yapıldığı hiyerarşik ikili lojistik analizi ile incelenmiştir. Sonuçlara KMT-Y’nin modele eklenmesi ile ilk -2 olabilirlik oranı 263.61’den 234.77’ye düşmüştür. Duygusal kimlik, dışadönüklük, sorumluluk,


3.3 KMT-DL’nin yapı Geçerliliği


KMT-DL’nin yapı geçerliliği incelemesinde, KMT-DL’nin kişinin kendi beyannına dayalı testlere (yönetme motivasyonu ölçeğinden duyguşal kimlik faktörü ve beşli kişilik envanterinden dışadonünlük ve nevrotiklik faktörleri ve liderlerin
doldurduğu çok yönlü liderlik ölçeği) oranla çalışanların liderleri hakkında algısını nasıl yordardığı incelenmiştir. Analizlerde 61 lider incelediği için istatistiksel güç hesaba katıldığında iki farklı analiz yürütülmesi uygun görülmuştur. İlk analizde KMT-DL, yönetme motivasyonu, dışadönüklük ve nevrotiklik çalışan algısını yordayıp yordamadığını; ikinci analizde ise KMT-DL ve liderlerin doldurduğu çok yönlü liderlik ölçeği çalışan algısını yordayıp yordamadığını bakılmıştır. İlk çalışmada ilk model anlamlı çıkmamış yani yönetme motivasyonu, dışadönüklük ve nevrotiklik çalışan algısını anlamlı bir şekilde yordamamıştır. KMT-DL’nin modele eklenmesi ile birlikte model anlamlı olmuştur ($F_{\text{Fark}} (1,56) = 8.78, p = .04; \beta = .37 t(56) = 2.96, p = .04$). Çalışan algısını yordamada KMT-DL yönetme motivasyonu, dışadönüklük ve nevrotiklikin üzerine %13 lük bir varyans açıklamıştır. İkinci analizde ilk model anlamlı çıkmamış yani liderlerin doldurduğu çok yönlü liderlik ölçeği çalışan algısını anlamlı bir şekilde yordamamıştır. KMT-DL’nin modele eklenmesi ile birlikte model anlamlı olmuştur ($F_{\text{Fark}} (1,58) = 8.9, p = .04$; $\beta = .39 t(58) = 2.98, p = .04$). Çalışan algısını yordamada KMT-DL liderlerin doldurduğu çok yönlü liderlik ölçeğinin üzerine %13 lük bir varyans açıklaması olmuştur.

3.4 Önemli Korelasyon Bulguları

TARTIŞMA

4.1 Çalışmanın Genel Bulgularının Tartışması


 Ayrıca, Wright (2011) liderliği öğrenci örnekleminde KMT ile incelemiş ve başarısız sonuçlar elde etmiştir, fakat mevcut çalışmada KMT soruları gerçek lider ve çalışan insanlarla test edilmiş olup bu durum çalışmaların bulgularını güçlendirmiştir.

Literatürde, gizil ve öz-beyana dayalı ölçeklerin aynı yapı ölçerken, ilgili yapanın farklı boyutlarını ölçtüklerini bu yüzden bu iki testin birbiri ile ilişkisiz olması gerektiğini söylemektedir (McClelland ve ark., 1989). Literatür incelendiğinde gizil ve kişinin kendini beyanına dayalı ölçeklerin birbirleri ile düşük veya ilişkisiz sonuçlar ortaya koyduğu birçok çalışmaya rastlanmaktadır (Bornstein, 2002; James, 1998; Winter, John, Stewart, Klohnen ve Duncan, 199; Bing, LeBreton, Davison, Migetz ve James, 2007). Mevcut çalışmada da gizil ve kişinin kendini beyanına dayalı ölçekler düşük korelasyon ilişkisi göstermiştir.

Gizil ölçüm literatürü incelendiğinde; gizil ölçümlerin başarı hakkında değerlendirme yapılırken genelde başka insanın değerlendirmeleri ile kıyaslama yapılmıştır. Örneğin Lindzey ve Tejessy (1956) iddiasına göre insanların sergiledikleri davranışlar daha çok başkaları tarafından iyi bir şekilde değerlendirilebilir, bu sebeple insanların dışarıya karşı göstermiş olduğu davranışlar başkalarının değerlendirmeleriyle ölçülmalıdır. Benzer bir şekilde Davids’tе (1973)
erkek çocukların saldırganlık davranışlarını TAT ile incelemiş ve psikolog ölçümleri ile kıyaslamıştır. Mevcut çalışmada da liderlerin doldurduğu gizil liderlik ölçüleri KMT, çalışanların liderleri hakkındaki değerlendirmeleri ile ilişkilendirilmiştir.


Sonuç olarak, liderliği ölçmek için geliştirilen KM testi hem istatistiksel hem de pratik sonuçlar ortaya çıkarmıştır. KMT-Y liderliği yordamada, KMT-DL çalışanların liderlik algısını yordama başarılı olmuştur.

4.2 Çalışmanın Güçlü Yönleri


Veriler Ankara ve İstanbul’da ki farklı ölçekteki ve alanlardaki firmalardan toplanmıştır. Bu durum veri çeşitliliğinin artmasını sağlayarak çalışmaların genellenebilirliğini sağlamıştır. Son olarak, katılımcılardan hiçbir kimlik ve kurum bilgisi istenmemiş olup bu durum katılımcı sayısını artırılmıştır.
4.3 Çalışmanın Sınırlılıkları ve Gelecek Araştırma Önerileri


Appendix O. Tez Fotokopisi İzin Formu

### ENSTİTÜ

- Fen Bilimleri Enstitüsü
- Sosyal Bilimler Enstitüsü
- Uygulamalı Matematik Enstitüsü
- Enformatik Enstitüsü
- Deniz Bilimleri Enstitüsü

### YAZARIN

- **Soyadı**: Demiran
- **Adı**: Ayça
- **Bölümü**: Psikoloji

**TEZİN ADI** (İngilizce): Measurement Of Transformational Leadership Through A Conditional Reasoning Test

**TEZİN TÜRÜ**: Yüksek Lisans [ ] Doktora [ ]

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir.
2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir.
3. Tezimden bir bir (1) yıl süreyle fotokopi alınamaz.

### TEZİN KÜTÜPHANEYE TESLİM TARİHİ: